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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled **SCHOOL EFFECTIVENESS CRITERIA** submitted by Veronika E. Bohac in partial fulfillment of the requirements for the degree of Master of Education.

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DATE: October 4 1984

ABSTRACT

The purpose of this exploratory descriptive study was to identify the criteria that selected school principals in Alberta consider to be major indicators of school effectiveness, and to obtain from the principals an assessment of their schools' performance on those criteria. The central purpose was translated into three objectives: the analysis of the principals' perceptions, the choice of theoretical framework to guide the study, and the design and verification of the survey instrument.

A questionnaire was designed for this cross-sectional survey on the basis of a conceptual framework adapted from Steers (1977) and criteria gathered from literature. Due to the large number of criteria selected for the study, two alternative forms of the questionnaire, each containing half the number of criteria from the original list, were used. The questionnaires were identical in every other respect, each consisting of three sections: (A) Demographic Information, (B) Criterion Rating, and (C) Ranking of Criteria and Areas of Impact on School Improvements. The questionnaires were subjected to Cronbach's Alpha and were found to be reliable.

Data from 144 questionnaires completed by principals from 12 school systems, which were selected by quota sampling, were analyzed using the Statistical Package for the Social Sciences (Nie et al.: 1975).

The following analyses were performed: frequency and percentage distribution, T-tests, content analysis, F-tests, factor analysis, and Cronbach's Alpha.

In general, the responses from principals representing the various demographic groups did not differ to a significant degree. The groups that gave higher ratings than the rest on more than 10% of the answers were: Division, Urban and Female.

The criteria that the principals surveyed considered most important for school effectiveness were related to Student and teacher perceived climate, followed by the Principal's managerial behavior, The teacher outcomes, The teaching process, and The school plant and support services.

In the self-assessment of school effectiveness, the principals reported that schools performed well on the criteria of School climate, Managerial behavior of principals, and Teacher attitudes. Low performance was registered on such

criteria as Financial resources, Working conditions for teachers, and the Principal's educational leadership. Comparison of the ratings in the Prerequisite and Performance columns indicates that most of the criteria in the survey received significantly lower ratings on performance as opposed to their importance.

The evaluation of the components of the theoretical framework indicated that School climate, Managerial behavior, and Teacher outcomes and characteristics, were perceived as most important, while Student background, Decline in enrollments, and The physical aspect of the school plant were judged to have the least impact on school effectiveness.

Eighty-one point five percent of the form A respondents indicated that they use the criteria contained in the questionnaire to assess the effectiveness of their schools. Similarly, 82.9% of the form B respondents replied positively to the above.

The two forms of the questionnaire were judged to be reasonably parallel, and hence usable for the purpose of pre-test and post-test.

In conclusion, the information gathered to achieve the three research objectives is as follows: the perceptions of the principals in this study are in agreement with current literature as outlined in Chapter II, the adapted theoretical framework has been found to be appropriate for this study, and the survey instrument has been validated.

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CHAPTER I

THE NATURE OF THE PROBLEM

Introduction

Organizational effectiveness has been the subject of ongoing study both in industry and in education. Its practical and theoretical significance has been noted by various writers (Steers, 1977; Mott, 1972; Price, 1968; Yuchtman and Seashore, 1967; and others).

A significant amount of literature dealing with organizational effectiveness published in the past two decades provides models for the understanding and assessment of organizational effectiveness. Although the researchers are in disagreement as to both the definition of effectiveness and the criteria and models for its evaluation (Steers, 1976:546; 1977:43), their contribution lies in their analyses of organizational components and the presentation of hypotheses regarding the relationship between the components.

While industry was the pioneer field of organizational effectiveness studies, there is an increasing body of literature reporting on "effectiveness" studies performed in the educational arena. The majority of the early school effectiveness studies indicate a tendency to use a single criterion for the assessment of effectiveness - student achievement on standardized tests (Rogus 1983:1; Gray, 1981:51). Recent reports from educational researchers argue that using the student achievement criterion exclusively seems inadequate, considering the complexity of the school as an organization.

Approaching school effectiveness from the point of view of organizational analysis would seem to be useful to educators, since it would provide a more informative picture of the operations of the school, than would a single criterion evaluation.

Two models from the industrial setting, which pay particular attention to the "human factor" and lend themselves to adaptation to the school setting, are those proposed by Steers (1977:104, 122) and Hoy and Miskel (1982:328).

The model developed by Steers (1977) has been adapted and used as a conceptual framework to guide the study and the design of the questionnaire used in the survey.

Objectives and Research Problems

The purpose of this exploratory descriptive study was to identify the criteria that selected school principals in Alberta consider to be major indicators of school effectiveness.

The central purpose of the study was operationalized through the following three objectives:

1. To survey the criteria used by principals to assess the effectiveness of schools in Alberta.
2. To determine whether the theoretical framework of Steers (as adapted by Bohac) is appropriate to describe the organizational processes related to effectiveness in present-day schools in Alberta.
3. To develop a questionnaire and to test its adequacy and appropriateness for the investigation relative to objective 1 and 2.

The objectives of the study led to the following research problems:

Objective 1 Criteria of Effectiveness:

Problem 1: Do demographic differences affect the responses of the principals?

Problem 2: Which criteria do principals in Alberta consider to be major indicators of school effectiveness?

Problem 3: How do principals assess their schools' performance on the above criteria?

Objective 2 Theoretical Framework:

Problem 4: How do principals evaluate the components of the conceptual framework in terms of their impact on school effectiveness?

Objective 3 The Questionnaire:

Problem 5: Is the survey instrument valid and reliable?

The research problems raised the following questions:

Problem 1: **Do demographic differences affect the responses of the principals?**

Question 1-1: Will the responses of the principals be affected by the type of school jurisdiction in which they work?

Question 1-2: Will the responses of principals differ depending on whether they work in a public or separate system?

Question 1-3: Will the responses of principals from urban areas differ from those working in non-urban communities?

Question 1-4: Will the grade level of the school (elementary, junior high school and high school) affect the responses of the principals?

Question 1-5: Will the responses of the principals holding a Bachelor of Education degree differ from those having additional education?

Question 1-6: Will the responses of male principals differ from those of female principals?

Problem 2: **Which criteria do principals in Alberta consider to be major indicators of school effectiveness?**

Question 2-1: Will the clusters of criteria identified as important by the principals correspond to the categorization indicated by the conceptual work?

Problem 3: **How do principals assess their schools' performance on the above criteria?**

Question 3-1: Will the principals' assessment reveal a general pattern of strengths and weaknesses?

Question 3-2: Are there significant differences between the rating of the importance of the criteria and the schools' performance on the criteria?

Problem 4: **How do principals evaluate the components of the conceptual framework in terms of their impact on school effectiveness?**

Question 4-1: Are the components equivalent in significance, or do some components represent key factors in the framework of the school organization?

Problem 5: Is the survey instrument valid and reliable?

Question 5-1: Are both forms of the questionnaire valid and reliable to a satisfactory degree?

Question 5-2: Are both forms of the questionnaire equivalent, so that one could be used as a pre-test and the other as a post-test in a school effectiveness program?

Rationale for the Study

As stated by Rogus (1983:1):

> .....in most "school effectiveness" studies, EFFECTIVENESS is defined in good part by performance on standardized tests.....skill performance and knowledge to the level of application is more easily assessed than are more abstract cognitive, affective or social outcomes. Virtually no professional would, however, define school effectiveness in terms of student performance on measures of these limited outcomes.

It is the intention of this study to explore indicators of school effectiveness other than standardized test scores, in order to define school effectiveness in more comprehensive terms.

The principal was chosen as the unit of analysis in this study for two reasons:

1. As practising administrators, they are most directly involved in the assessment of school effectiveness.
2. Recent literature indicates that the principal plays a key role in the coordination of efforts to create an effective school.

Boyd (1982) cites four major criteria for school effectiveness:

1. Assertive, achievement-oriented leadership.
2. Orderly, purposeful and peaceful school climate.
3. High expectations for staff and pupils.
4. Well designed instructional objectives and evaluation systems (Shoemaker and Fraser, 1981).

Boyd concludes that although some of the four attributes can be attained through substitutes for formal leadership, a major role remains for school administrators. It is his recommendation that "much more research is needed on the attributes of effective schools and particularly on the administrative behaviors that contribute to school effectiveness" (Boyd, 1982).

Significance of the Study

Is a school effective because it has high student achievement scores, or does it have high scores because it is effective? Since current literature seems to suggest the latter, it is important to gain a better understanding of the meaning and attributes of "school effectiveness". When administrators, teachers and parents talk about school effectiveness, they often use the term "good school". This term summarizes the tacit understanding and definition of school effectiveness as it is used in practice. Hoy and Miskel (1982:319-20) make a similar observation:

> Education is not devoid of effectiveness indicators. Educators and members of the public acknowledge that different schools achieve different degrees of success, even with similar student populations. .....at the level of practice, effectiveness indicators are known. At the level of theory, however, controversy about organizational effectiveness still becomes intense when specific questions are raised.

The criteria contained in the questionnaire relates to various components of the school organization in order to elicit the significant factors that define a "good" or "effective" school.

Understanding these factors has implications for the training of school administrators, by identifying areas where special efforts would be conducive to school effectiveness.

The assessment of current school performance by the principals involved in this study is useful in suggesting areas on which school improvement programs might concentrate.

The ranking of the components of the conceptual framework yields a "real world" interpretation of the model.

The list of criteria resulting from this study can serve as a guide for school systems interested in school improvement.

Delimitations

1. Survey instrument. The design of the questionnaire was guided by a conceptual framework adapted by the researcher from Steers (1977:104). The criteria contained in the questionnaire were selected from literature by the researcher. Procedures for reducing the researcher-bias factor are outlined in Chapter III.
2. Selection of subjects. The selection procedure used was a variation of quota sampling. The selection was aimed at representation from the following categories:
   - Type of school system - district, county, division
   - School grade level - elementary, junior high school, high school
   - Community size - urban, rural

   This is not a stratified random sample. In this exploratory study the aim of the selection was not to generalize the conclusions to the population of Alberta principals, but to investigate possible differences in responses between the above categories.

Limitations

1. Survey instrument. Validity of the data from the questionnaire was limited by possible differing interpretations of the meaning of the criteria contained therein, and by self-assessment of school performance. Due to the inherent limitation of the questionnaire as an instrument, the number of questions had to be limited.
2. Selection of subjects. In two of the school systems, selection of the sample of principals was done by Central Office personnel, thereby limiting the reliability of those samples. The total number of principals from the rest of the participating school systems received the questionnaire.

3. Distribution of questionnaires. In all but three systems, the distribution and collection of the envelopes containing the questionnaires was done by Central Office courier. This may have influenced the validity of the self-assessment responses to some degree.

Assumptions

1. That presence of certain criteria is associated with school effectiveness.
2. That such criteria can be observed and described in behavioral terms.
3. That schools can be improved by acting on the indicated criteria.
4. That information regarding the criteria can be gathered by using a questionnaire.

Outline of the Thesis

In this chapter the focus of research is introduced and five specific research problems are identified. The rationale and significance of the study is discussed, followed by an explication of the delimitations and limitations. A brief outline of assumptions concludes this chapter.

Chapter II provides a review of the literature relevant to this study.

Chapter III consists of the description of the methodologies and procedures, including the construction and administration of the questionnaire, selection of subjects and an outline of the approach to the analysis of the data. The conceptual framework guiding this study is also described in this chapter.

Chapter IV is comprised of the data analysis and the resultant findings. Data from form A and B of the questionnaire are first analyzed separately, followed by a comparison of responses from both groups, where appropriate.

Chapter V represents the summary of the study and includes conclusions and recommendations.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter provides an overview of recent literature related to organizational and school effectiveness.

Since organizational effectiveness as such was first studied and documented in the industrial setting, the first section of this chapter provides some basic definitions and concepts derived from organizational studies.

The next section discusses the application of organizational studies to the school setting, and gives some examples of organizational type studies adapted to school effectiveness research.

The last section of this chapter deals directly with school effectiveness research. After a discussion of definitions and school effectiveness research in general, research pertaining to particular aspects of the school is described.

Organizational Effectiveness

A thorough overview of organizational effectiveness research, complete with models and a good cross-section of literature, has been done by Van de Ven and Ferry (1980). A similar approach has been used by Lawler and colleagues (1980). These authors point out that organizational effectiveness is associated with behavior and hence evades clear-cut assessment strategies:

> If the overall definition of organization effectiveness is the degree to which the goals and criteria judged to be the "ends" are attained, a direct assessment of effectiveness is possible by operationalizing and measuring only the end criteria. Although it is tempting to simply measure all key criteria and empirically establish the pattern of measure-ends relations among the criteria, it is important to recognize that the classification of criteria as means or ends is not a methodological but a value question that requires careful consideration of which goals the user considers ends or outcomes (Lawler et al, 1980:562).

The search for a definition of organizational effectiveness has been the essential starting point of many studies.

> To move the area of inquiry forward, we must think of organizational effectiveness as a construct that has no direct operational definition, but which constitutes a model or theory of what organizational effectiveness is. The functions of such a model would be to identify the kinds of variables we should be measuring and to specify how these variables or components of effectiveness, are interrelated - or should be interrelated.
>
> Strictly speaking, it is not possible for anyone concerned with the effectiveness of organizations to avoid using it as a construct or to avoid operating via some kind of theory (Campbell, 1976:30).

The search for a definition has resulted in a plethora of approaches, but to date not universally accepted criteria of organizational effectiveness exists. Instead, the criteria are selected "on the basis of an author's particular emphasis or specialty..., (and) on the organizational situation that needs to be addressed" (Cunningham, 1977:463-469).

Two approaches to organizational effectiveness have played a predominant role in the literature, the goal centered approach and the natural systems centered approach (Campbell: 1976, Cunningham: 1977).

Cunningham describes the goal approach in the following way:

> The rational goal approach focuses on the organization's ability to achieve its goals. Evaluation criteria are derived from a definition of ends the organization is expected to achieve..... The basis of the rational goal approach is the Weberian concept of functional rationality. According to Weber, modern organizations are characterized by networks of roles; divisions of labor; and hierarchies defining the relationship of each activity, project, program, and function to the overall goals of the organization. In this scheme, an organization is rational if the above elements are organized for the achievement of its goals (Cunningham, 1977:465).

Cunningham provides this definition of the systems-resource approach:

> The systems resource model defines the organization as a network of interrelated subsystems. The outputs of one subsystem may become the inputs of another subsystem; the organizational system functions effectively to the degree that its subsystems are in harmony and are coordinated to work together. The central question in the use of this model is: Under given conditions, how close does the organization's allocation of resources approach an optimal distribution among the various subsystems? (Cunningham, 1977:465-466).

Once a definition or a model is formulated, it can be used by the researcher as a framework for designing an approach to the measurement of effectiveness. As a consequence, the types of measurement proposed were soon as numerous as the types of definitions. Price (1972) perceived a need for some standardization of the measuring instruments:

> The level of organizational measurement could be significantly improved, to state the matter charitably. Many - perhaps most- organizational measures are based on a single piece of information rather than on combinations of different pieces of information. In short, the typical organizational measure is an indicator rather than an index. Or again, most measures are accompanied by no information that explicitly discusses their validity and reliability (Price, 1972:1).

The primary purpose of Price's handbook was to promote standardization of the measures used in the study of organizations. He intended his handbook to be a compilation of existing measures in a compact, orderly, and precise manner, assuming that in such a form it would be easier to use them, and this greater ease would increase the likelihood that researchers would use the same measure when studying identical concepts. His handbook focuses on the following aspects of the organization: absenteeism, administrative staff, alienation, autonomy, centralization, communication, complexity, consensus, dispersion, distributive justice, effectiveness, formalization, innovation, mechanization, motivation, bases of power, routinization, satisfaction, size, span of control, and succession. Consistent with his purpose, Price's approach to effectiveness is the goal approach. Although he admits that the goal model has drawn some criticisms, he defends it by the following:

> The most serious criticism made of the goal approach by those who use the system resource approach pertains to goal-identification. If the goals of an organization cannot be distinguished, as suggested by those who use the system resource approach, then effectiveness cannot be measured because, as previously indicated, the goal approach defines effectiveness in terms of the degree of goal-achievement. Those who use the system resource approach are certainly correct to emphasize the difficulty that the goal approach has with goal identification. However, this problem is reduced to manageable proportions if the focus of the research is on the organizational goal that the major decision-makers actually pursue, and if data are collected about the intentions and activities of the major decision makers (Price, 1972:101).

Cameron and Whetten (1981) added another twist to the already complex problem of finding the optimal definition of effectiveness. They noted that perceptions of organizational effectiveness differ over time, during the life cycle of the organization, ranging from the input oriented individual effectiveness to output oriented organizational effectiveness. A view of their findings, they criticized the prevalent over-reliance on researcher imposed criteria of effectiveness and the tendency to measure perceptions of effectiveness at only one point in time. Cameron and Whetten (1981) claim that different perceptions of effectiveness are related to different functional domains, which, in turn, are related to different stages in the life cycle of the organization. They propose a four-stage life cycle:

1. "Creativity and entrepreneurship" - marshalling resources, creating an idealogy, and forming an ecological niche are emphasized. Effectiveness is input oriented and on an individual level.

2. "Collectivity" - high commitment and cohesion among members, face-to-face communication and informal structures, long hours of dedicated service to the organization, and an emerging sense of collectivity and mission. The organizational emphasis is on internal processes and practices, rather than on external contingencies.

3. "Formalization and Control" - procedures and policies become institutionalized, goals are formalized, conservatism predominates, and flexibility is reduced. The emphasis is on efficiency of production.

4. "Elaboration of Structure" - decentralization, domain expansion, and renewed adaptability occur, and new multipurpose subsystems are established.

(Summarized from: Cameron and Whetten, 1981:527).

Cameron and Whetten suggest that it is necessary to organize the criteria of effectiveness into meaningful categories, for example, according to the domains of activity.

Another observation which may complicate the measurement of effectiveness, is that of Weick (1976), who suggests that elements in organizations are tied together loosely, rather than coupled through dense, tight linkages. This flexible and dynamic aspect of organizations is typified, according to Weick, by educational organizations.

> The basic premise here is that concepts such as loose coupling serve as sensitizing devices. They sensitize the observer to notice and question things that had previously been taken for granted. It is the intent of the program described here to develop a language for use in analyzing complex organizations, a language that may highlight features that have previously gone unnoticed. The guiding principle is a reversal of the common assertation, "I'll believe it when I see it" and presumes an epistemology that asserts, "I'll see it when I believe it." Organizations as loosely coupled systems may not have been seen before because nobody believed in them or could afford to believe in them. It is conceivable that preoccupation with rationalized, tidy, efficient, coordinated structures has blinded many practitioners as well as researchers to some of the attractive and unexpected properties of less rationalized and less tightly related clusters of events (Weick, 1976:2&3).

The existence of effectiveness theories and measuring instruments has prompted researchers to go a step further and study ways to promote effectiveness. Various models and approaches have been described. Albrecht (1982), in writing about organizational development, suggests that organizations should take the systems approach to organizational effectiveness. Albrecht describes the systems approach as composed of four systems: Technical System; Social System; Administrative System; and Strategic System.

Some of the theoretical models abounding in the literature have been somewhat successful in their endeavors to explain organizational behavior, while others failed the test of application. Pennings (1975) set out to test the structural-contingency model by application in industry. His primary concern was to investigate how uncertainty affects the pattern of relations among people who are engaged in concerted action. The hypothesis of the study stated: the greater the environmental uncertainty, the greater the amount of informal communication, participativeness, frequency of meetings, specialization, and power-equalization. Pennings concluded from his results that the structural-contingency model could not be confirmed, which led him to question the usefulness of the model. Further, the results showed that the goodness of fit between environmental and structural variables failed to explain the variance in effectiveness.

Hersey and Blanchard (1976) tested the application of the Life Cycle Theory, a leadership of the Tri-Dimensional Leader Effectiveness Model, which states that as the maturity level of employees increases, the manager must decrease the structure (or task) orientation, and eventually the socio-emotional (relationships) support as well. The authors attempted to present a framework

for appropriate leadership styles, according to the maturity of the leader's followers. The authors conclude that:

> .....span of control, should be a function of the maturity and self-control of the individuals being supervised. It would seem that the more mature and better educated one's subordinates are, the more people a manager could supervise (Hersey and Blanchard, 1976:145).

Hersey and Blanchard stress also that organizational structures and management behavior must respond to cultural and educational differences apparent among the employees.

Application of Organizational Research to School Effectiveness

> The literature on school effectiveness demonstrates the essential link between educational outcomes and organizational context. What is important about that context is not the materials and resources it holds or the formal definitions of structure, heirarchy and role which describes it, but the interests and activities, the ongoing negotiations among participants, singly and in groups which constitutes day-to-day life in schools (Lotto, 1982:8).

Lotto is a strong supporter of using an organizational research approach to school effectiveness, because school research to date indicates that "the variables most powerfully associated with school (and program success), are organizational rather than programmatic in nature" (Lotto, 1982:5).

> Lotto believes that schools should be perceived as organizations, and school effectiveness judged in terms of organizational effectiveness. She claims that the Rational Bureaucracy and Goal Attainment paradigms fail to explain many organizational phenomena, and cause us to overlook potentially useful and important phenomena. Her theory of organizational effectiveness has three components: (1) need to act; (2) need to attribute meaning to action; and (3) need for individual participation. She concludes that organizational norms and belief systems are relevant to the activities and preferences of the school. She sees the ability to bring diverse individuals together in collective activity as the ultimate criterion of organizational effectiveness.

Child (1974) searched for factors that determine organizational performance. He isolated 10 factors - 5 of these he classified as "universal" and 5 as "contingency" propositions. With some adaptation these factors or propositions could be applicable to the school situation. Indeed, many of these factors are also described (albeit in different words) by Edmonds (1979):

Universal Factors:

1. Organizations run by younger teams of top managers will tend to achieve higher levels of performance.
2. Organizations run by formally better-qualified teams of top managers will tend to achieve higher levels of performance.
3. Organizations run by managers with a substantial personal stake in their ownership will tend to achieve higher levels of performance.
4. The performance standards set by an organization's management will be influenced by the norms of performance among other organizations of similar type.
5. The less dispersed top-management objectives are and the more agreement there is among senior managers as to which objectives have priority, the more successful the organization will be in attaining them.

Contingency Factors:

6. In conditions of environmental variability, successful organizations will tend to have structures with the following characteristics: (1) arrangements to reduce and to structure uncertainty; (2) a relatively high level of internal differentiation; and (3) a relatively high level of integration achieved through flexible, rather than formalized, process.
7. Organizations that increase their degree of formalization to parallel their growth in size will tend to achieve higher levels of performance.
8. Organizations that group their basic activities into divisions once these activities become diversified will tend to achieve higher levels of performance.
9. Organizations that design their work flow control and support structures to suit their technologies will tend to achieve higher levels of performance.
10. Organizations that adopt forms of administrative structure consistent with the expectations and perceived needs of their personnel will tend to achieve higher levels of performance.

> The proposition (10) refers to the expectations and perceived needs of personnel. This reference to the perceptual level is important, for whatever the order of man's universal psychological needs, it is clear that different types of people do not have the same requirements of their work at the conscious perceptual level.
>
> In short, proposition (10) indicates that managements need to spend time ascertaining the expectations of different groups among their employees if they want to have a reliable idea of which arrangements will secure the willing commitment of those employees (Summarized from Child, 1974:2-19).

John Child's comments pertaining to proposition (10) are particularly relevant to the role of the principal in establishing school climate.

Climate is also the key factor in O Hanlon's (1983) argument for the use of the principles of Japanese management ("Theory Z") in schools.

O'Hanlon gives 4 characteristics underlying "Theory Z":

1. Commitment to an overall philosophy. (This includes objectives, operating procedures, constraints and expectations from environment.)
2. Emphasis on the long term.
3. Trust. (This comes from the understanding that everyone in the company shares fundamentally compatible goals.)
4. Participative decision making.

O'Hanlon did a comparison of the basic characteristics of a "Z Company" and the American school. Realistically he concluded that "Clearly a number of changes would be required for school management to be conducted in a Z manner" (O'Hanlon, 1983:17). O'Hanlon lists 6 such changes:

1. <u>Lifetime Employment</u>

   The focus of the evaluation and development of teachers is very short-term.....

   Application of the lifetime employment concept requires establishing career paths and supporting greatly increased amounts of inservice education.

2. <u>Slow Evaluation and Promotion</u>

   The lack of promotion opportunities for the classroom teacher as a teacher has long been recognized as a service motivational problem.....

   .....Opportunities to work on meaningful tasks with others in the school organization, including top administrators, might also strengthen

collegiality within the school and create closer bonds between teachers and their work.

3. Nonspecialized Career Paths

The so-called "wandering around" practiced by managers in Z Companies could be realized in schools by changing teachers' assignments every few years so that they experience the challenge of different grade levels, courses, and even school settings.

4. Implicit Control Mechanisms

Implementation of the Z idea of "management by walking around" - direct participation by managers as opposed to distant order giving would require very different priorities for administrators.

5. Collective Decision Making and Responsibility

Many top down and even group decisions are carried out only partially, while the teacher operating in his or her own classroom makes hundreds of decisions that may or may not support those made by other teachers.

.....Some doubt as to whether teachers are willing to give up any of their control over decisions in their classrooms.

6. Holistic Concern

The schooling of youth in the United States is very segmented. The seventh grade teacher knows next to nothing about what the sixth grade teacher is doing; the English teacher is uninformed about what the math teacher is doing, and so on.

.....A Z Company focuses its concern on its long-term business success. Such a focus of concern in the schools is easy to identify - the learner. Summarized from O'Hanlon (1983:17-18).

O'Hanlon concludes that the success in the implementation of "Theory Z" in schools, is dependent primarily on the principals. O'Hanlon is optimistic that "Theory Z", once implemented in schools might be able to address two long time problems in American education:

1. Weakness of Teaching as a Subculture

(ie. lack of common language, support relationships.) The emphasis in Z on the development of the worker-teacher through broader participation and work experiences and on the exercising of collective responsibility for decision making and implementation may have promise for dealing with this weakness.

2. Segmented Nature of the School

> Theory Z may provide a basis for coordinating the efforts of the school (O'Hanlon, 1983:18).

Another advocate of the Japanese management style is Chase (1983). In particular, Chase sees great possibilities for the adaptation of "Quality Circles" in education. The quality circle is a participative management tool described by Chase as follows:

> A quality circle is a small group of employees (5-12) who voluntarily meet on a regular basis to identify, analyze, and solve various problems (Chase, 1983:19).

Chase describes the techniques in which the quality circle leaders have to be trained. There are 8 techniques: Round Robin Brainstorming; Voting to Achieve Group Consensus; Cause and Effect Analysis; Data Collection; Decision Analysis; Generating Solutions; Management Participation; and Evaluation.

> The Quality Circle is not a con. I make this assertion because many administrators have implemented what I call pseudo-participation programs in which the hidden agenda was to manipulate staff into feeling involved in the decision making/problem solving processes of the organization when, in fact, the leader was not sincere. The sincere commitment of the top administration will be tested early in the quality circle program (Chase, 1983:25).

> Aware of the political realities of school administration, Chase describes a 6 step implementation plan:

1. Obtaining top administration support for the program.
2. Establishing a steering committee.
3. Appointing the quality circle facilitator.
4. The management presentation.
5. Evaluating the effectiveness of the quality circle program.
6. Quality circle expansion.

(Chase, 1983:24-25).

Konnert and Graff (1976) reinforce the view of the previous two authors, that the principals (or chief administrators) have the key role in the creation of a climate of cooperation which is conducive to school effectiveness. In particular, they caution that the personal philosophies of the decision makers represent the most important factor in organizational decision making. The authors believe that:

> A good philosophical base is the sine qua non to organizational effectiveness and good decision making. It is only through a well-stated philosophical base that worthy goals can be established and proper management techniques selected to help with their achievement (Konnert and Graff, 1976:4).

This belief is directly applicable not only to principals but to teachers as well.

The descriptions of the studies mentioned above indicate that organizational studies are applicable to the study of schools. The following studies report on the results of organizational-type studies conducted in schools.

For example, a study of participation in organizations, done by Pennings (1976). The study revealed the following:

> In this study, three influence concepts, particiipativeness, centralization, and organizational autonomy, were analyzed conceptually and operationally and subsequently related to five indicators of organizational effectiveness. The criteria of effectiveness included total production, decline in production, financial loss due to errors, morale and anxiety. The individual and joint effects of the influence variables on organizational effectiveness were very strong.
>
> Participative, decentralized, and autonomous organizations are more effective (Pennings, 1976:688).

Garland and O'Reilly have taken the subject of participativeness and tested its effect in schools. Although Garland and O'Reilly used different testing instruments than Pennings, many of the questions in Stern's High School Characteristics Index which has been used in the Garland and O'Reilly study, are also addressed in the organizational influence section of the Pennings study. Going beyond the attempt to link participativeness with atmosphere and ultimately with organizational effectiveness, Garland and O'Reilly added the investigation of the role of the principal, as another dimension of their study.

The study was based on Fiedler's Contingency Model of leadership effectiveness, using a multivariate design. Garland and O'Reilly provide a detailed analysis of Fiedler's theory. Very briefly summarized, the theory indicates that low LPC leaders are more effective in highly favorable or unfavorable group situations, whereas high LPC leaders are more effective in the moderately favorable situations. The assumption behind applications of this theory is that matching leaders to situations would improve group performance. The three variables of this study were leadership style, group atmosphere, and

group effectiveness. The study focussed on the differential impact of low, intermediate, and high LPC leaders in good and poor group atmosphere schools using as the criterion of school effectiveness, Stern's High School Characteristics Index. In phase one, questionnaires regarding leader characteristics were sent to 211 principals, and in phase two questionnaires regarding staff effectiveness were sent to the schools selected on the basis of data from phase one. Likert's formulation of the process of activity in an organization in terms of causal, intervening, and end-result variables was utilized in the interpretation of the results.

Perhaps surprisingly, Garland and O'Reilly concluded that the leadership style of the principal appears to have very little direct effect on organizational outputs. They did note, however, that leadership style and group atmosphere were related. In short, those principals who, by one process or another, ended up with a staff that enjoyed a good leader-member relationship, ran good schools. The key, in terms of application for other principals, is the process whereby the principals in the study established good leader-member relationships. Garland and O'Reilly suggest that principals, regardless of their psychological makeup, can and should get assistance with techniques or approaches for promoting good relationships among their staffs.

School atmosphere as it relates to teachers, and the relationships among the staff and with the principal, were also the subjects of a study by Stanton (1978) on teacher perceptions. Stanton interviewed 89 teachers from 4 large secondary schools. The interview schedule addressed such topics as school management, staff meetings, departmental policy, communication of information, functions as a teacher, etc. Stanton classified the teachers according to their status in the school and their interests, and found that these teacher characteristics influence how they perceive school climate. This is reminiscent of the relationships in the model proposed by Steers (1977).

> Results showed that, while there were differences in perceptions between those classified as having low or high status, there were also differences associated with particular interests. It was concluded that a universalistic view of schools as organizations would not appear to have a firm foundation (Stanton, 1978:57).

In terms of application, it is noteworthy that the teachers placed a considerable degree of emphasis on the nature of interpersonal relationships, the

function of teachers, the status of different teachers and its effect on consultation and communication, and the rationale of organizational structures and policies.

Relationships between teachers, their colleagues, and their administration (the principal and the power structure in the school), were the subject of a survey by Forsyth and Hoy (1978).

The authors focussed on power and friendship networks to see how selected dimensions of interaction affect the work alienation of educators. The findings showed that isolation from formal control, while strongly related to low status characteristics, was not necessarily perceived by the teachers as contributing to work alienation. Since teaching is a relatively autonomous function, "Teachers may not feel the impact of denied input into administrative decisions; their classrooms are still theirs." (Forsyth and Hoy, 1978:91). The authors noted, however, that isolation from friends and colleagues was related to increased work alienation. The authors concluded that interaction with friends and respected coworkers is more important to professional educators than contacts with those in authority.

School Effectiveness: Literature and Research

Definitions and Research of School Effectiveness

Effectiveness can be defined as "(the organization's) capacity to survive, adapt, maintain itself, and grow, regardless of the particular function it fulfills" (Schein, 1970:118).

Researchers have repeatedly pointed to the difficulty of measuring such characteristics of effectiveness not only because they are difficult to define, but also because ethical and practical considerations prevent large scale hypothesis testing with human subjects. As a consequence, educators generally referred to the standardized test results of pupils in order to evaluate the effectiveness of a school (Rogus, 1983). Many educators now recognize that other factors are at work to create an effective school and consequently advocate the use of additional diagnostic tools. Gray (1981) argues that other dimensions of effectiveness should be pursued through qualitative studies such as case studied.

> .....yet studies which avoid such measures do a disservice to any school which is not heavily into the 'academic' game. They fail to acknowledge that a curriculum composed of examinations has little or no relevance to substantial minorities of pupils in large numbers of schools (Gray, 1981:50).

It appears that the need for a new approach is becoming generally accepted. What is at issue in current school research, "is how large and consistent these (school) effects are and the extent to which they may be linked to what schools have done to or for their pupils" (Gray, 1981:49).

Dennison (1978) expounded on the difficulties associated with assessing school effectiveness. For example, how effectiveness is to be judged depends on why it is being judged and on the definition of effectiveness that one chooses. Additional complicating factors are the influence of the home on the student, as well as the fact that some school effects may not show for a long time.

> As a result there are few indicators which could be used reliably to evaluate the teaching-learning process as such, and any evaluation must be of what children have learned or how they have developed following school activities - a product evaluation, rather than a process evaluation. However, many product evaluations only confirm the influence of non-school circumstances upon pupil achievement (Dennison, 1978:239).

Miskel and others (1975), who studied job satisfaction among educators concluded that long-term organizational effectiveness may depend on matching the psychological make-up of the employees with the demands and rewards of their job.

In their review and synthesis of literature, Squires and his colleagues (1981) isolated five school and classroom indicators which are associated with student achievement scores. These indicators, which the authors arranged into a flow chart, are: school leadership, supervision, school-wide norms, teacher behaviors, and student behaviors. These indicators have been described by the authors in terms of effectiveness criteria selected from literature. Student time-on-task, effective teacher behaviors, and positive teacher supervision are some of the criteria emphasized by the authors.

> Effective schools are characterized by strong emphasis on academics. Their teachers and administrators emphasize a curriculum of reading, writing, and math in a businesslike environment that promotes and reinforces disciplined work (Duckett and others, 1980) and instruction that absorbs much of the school day (Fisher and others, 1979). Teachers in effective schools spend more time on lessons (beginning and ending lessons on time) and provide periods of quiet work. In secondary schools, homework is given and graded regularly (Rutter and others, 1979). The school norm about academic emphasis promotes student involvement and coverage. Administrators can develop systems to occasionally check teachers' punctuality in starting and ending classes, and review their lesson plans to see whether homework is being done (Squires et al., 1981:177-178).

Smith and Schul (1982) used the following criteria to rate the perceived effectiveness of college:

1. Faculty
2. Graduates
3. Administration and staff
4. Campus buildings, grounds, equipment
5. Variety of courses and programs
6. Student body composition
7. Student services
8. Community services
9. Academic standards
10. Educational cost (tuition and other fees)

Each criterion was accompanied by a number of related questions. The respondents were managers, students, staff, the principal and counsellors. It is interesting to note that overall, Academic standards and Faculty were judged to be the most important criteria, followed by a Variety of courses and programs and Administration and staff.

With the increasing importance being attached to factors other than testing, some educators began to question the importance and status of standardized testing as an evaluation tool. A group of researchers addressed this issue specifically in their study:

> Virtually none of the educators interviewed believed that they themselves were the principal beneficiaries of tests, yet each agreed that tests are generally useful. No one in the schools and administrative offices studied is asking for more testing, nor does anyone seem to feel that testing is getting in the way, costing too much, or diverting attention from the main job.

> Tests are, quite simply, a natural feature of the U.S. educational environment; it appears that teachers and administrators have adjusted to their presence, neither deriving much benefit from them nor suffering much distress as a result of them (Resnick, Lauren, 1981:624).

Daniel Resnick (1981) indicates that although the research of his colleague shows a rather neutral attitude toward standardized testing in the school jurisdictions, the use of such tests has been on the increase since the mid-sixties and only recently began to level off. Resnick lists various reasons for the continued usage, most of which are not directly related to student learning:

> A common concern of school districts in a system of localized authority has been to establish how well districts or schools within districts are performing relative to one another. At one level this responds to the boosterism of American communities.....(Resnick, Daniel, 1981:627).

Other reasons mentioned include the egalitarian tradition and a perceived need for national standards. Sproull and Zubrow (1981) investigated the administrative perspective on standardized testing. Their findings indicate that testing is not a high priority in most school systems. Central office administrators generally indicated that they do not depend heavily upon test data for decision making and that they believe that most of the benefits of testing accrue to others (ie., principals and teachers).

Teacher attitudes to standardized testing were investigated by Salmon-Cox (1981). The majority of the 68 elementary teachers interviewed indicated preference to rely on their own judgement, their own tests, and their observations of students.

> Then we sought teachers' ideas about inappropriate uses of achievement test information. The teachers we studied identified as inappropriate: (1) exaggerations of the uses they already engaged in and (2) the use of achievement test information for decision making in isolation, that is, without regard to other information as well (Salmon-Cox, 1981:633).

It appears that student achievement is a phenomenon of considerable complexity, for which standardized tests are measuring tools of limited effectiveness. It has been noted that student achievement is an outcome of several complex processes which interact to positive or negative results. Mortimore (1981) makes a clear

distinction between the outcomes (student attendance, behavior, delinquency, and academic outcomes) and the processes that interact to produce it (leadership, expectations, consistency, feedback).

School effectiveness studies to date abound with hypotheses and approaches to research. Madaus and his colleagues (1980) devoted a book to a thorough analysis of school effectiveness research.

The book has several important messages for the researcher. It points out that evaluative instruments must be sensitive to the schooling effects. Instruments that are too crude to note the specific changes being produced by the school may give a false or misleading picture. The book also calls attention to some sampling and research design problems. The decision whether to use a cross-sectional survey taken at a particular time, a longitudinal study showing the effects of several years of effort by the school, or an experimental study attempting to determine the causal effects of the different approaches to education, is crucial to the relevance and legitimacy of the research. The assessment by the authors indicates that in all probabilitity the evaluation studies of the future must incorporate some features of each of these approaches. The use of statistical methods and the summarization of evidence did not escape examination by the authors. The conclude that the researchers need to be very sensitive to the underlying assumptions of each method of summarizing the evidence and the conclusions that are warranted. The authors expended considerable effort in outlining the complexities of school effectiveness research:

> A number of questions arise when an investigator attempts to represent in a research design the functions of schools. He or she has to ask, what is it that schools try to achieve?.....The researcher also has to ask how schools set about attaining their objectives. For example, what do schools perceive the role of the home and the community to be in the education of a student - as something independent of the role of the school or as something that interacts with it? And how are the school's own resources allocated within the institution? Do all students or all classes have access to all resources? (Madaus et al., 1980:17).

Their conclusion is that despite the problems and limitations associated with school effectiveness research, some progress is being made which contributes to our knowledge of schools:

> A good deal of this book has been devoted to a consideration of the limitations of research on school effectiveness. We have noted that available research does not speak to the absolute effects of schooling on achievement, and that there are many limitations in what it can tell us about the differential effects of schooling. These limitations were discussed in the context of methodological problems relating to the specification and measurement of school input and output variables, and to the way in which input variables are related to measures of output. Despite these limitations, evidence from some studies indicates that what goes on in schools is clearly related to student achievement (Madaus et al., 1980:188).

The authors also present a thorough analysis of the Coleman study (1966) and of the criticisms levelled against it.

> In the context of the current debate on school effectiveness, it is interesting to note that the Coleman survey - the results of which form a key element in the debate - although conceived in the context of policies regarding equality of educational opportunity, in practice accepted short-term personal goals, the achievement of students, as its criteria of school effectiveness. The relation between the achievement of such short-term objectives and more long-term institutional objectives was not explored.....At best, despite its mandate and extrapolations from its findings, the study can tell us little more than how schools are achieving short-term objectives (Madaus et al., 1980:21).

In addition to the questions of how to define the study school effectiveness, another question has been raised by educators, and clearly addressed by D'Amico (1982): how useful is the current school effectiveness research to educators? D'Amico notes that there is a lack of consistency among the reports on school effectiveness studies. Not only is the number of characteristics different in each study, but also the characteristics that seem similar are expressed differently. There is also a low degree of match between the conclusions of some studies and their specific findings.

> Without more unanimity about which characteristics contribute to a school's effectiveness, it is difficult to know which characteristics to use as a focus for improvement. And the studies offer little guidance for selecting the most appropriate (D'Amico, 1982:61).

Table 2.1 shows the characteristics of four studies as summarized by D'Amico. In response to D'Amico, Lawrence Lezotte (1982) claims that school effectiveness research is useful as a framework for school improvement programs.

> .....Practitioners find the research sensible because it looks at the whole school, recognizes roles and role relationships, and acknowledges the subtle yet powerful interactions that exist between and among the members of the school social system (Lezotte, 1982:63).

Another supporter of the school effectiveness research is Stow (1979) who maintains that the research can be useful to practitioners. Stow reports that student achievement rose sharply when the West Des Moines schools incorporated the findings of effectiveness research in their teacher evaluation system. Stow described a project which started with the following question:

> Could teachers be taught to use direct instruction in connection with the appraisal process, and would that lead to increased student achievement?
>
> The idea was to create a teacher performance evaluation system that used criteria from existing research and a cycle of operating procedures that included the setting of job improvement targets. The system was to be validated by use of student gain scores on custom-tailored, criterion-referenced tests (Stow, 1979:55).

The subject chosen for study was mathematics and the participants were 494 grade four students and their teachers. As a means of evaluation of the program, a teacher performance appraisal system was designed, and criterion-referenced tests were developed based on performance objectives. At the successful conclusion of the project Stow states: "Perhaps the most salient finding of the study was the discovery that performance appraisal centering on teacher effectiveness criteria coincided with extraordinary results in standardized test scores" (Stow, 1979:58). Analysis further revealed that teachers whose pupils did well were businesslike, task-oriented, and concerned about academic learning time.

Another approach to utilizing school effectiveness studies has been proposed by Austin (1979), who suggests that studying the characteristics of

TABLE 2.1

CHARACTERISTICS OF "EFFECTIVE" SCHOOLS

Brookover and Lezotte (1979)	Edmonds* (1981)	Phi Delta Kappa (1980)	Rutter and Others (1979)
Improving schools accept and emphasize the importance of basic skills mastery as prime goals and objectives.	Clarity that pupil acquisition of the basic school skills takes precedence over all other school activities.	Successful schools are characterized by clearly stated curricular goals and objectives.	Outcomes were better in schools where teachers expected the children to achieve well.
Staff of improving schools believe all students can master the basic skills objectives and they believe the principal shares this belief.	There is a climate of expectation in which no children are permitted to fall below minimum but efficacious levels of achievement.	The leaders' attitudes toward urban education and expectations for school or program success determine the impact of the leader on the exceptional schools.	Outcomes were better in schools that provided pleasant working conditions for the pupils.
Staff of improving schools except their students will go on with their education.	Administrative leadership is strong and without it the disparate elements of good schooling can be neither brought together nor kept together.	The behavior of the designated school or program leader is crucial in determining school success.	Outcomes were better in schools where immediate, direct praise and approval were the prevalent means of classroom feedback.
Staff of improving schools do not make excuses: they assume responsibility for teaching basic skills and are committed to do so.	A means is present by which pupil progress can be frequently monitored.	Successful urban schools frequently employ techniques of individualized instruction.	Outcomes were better in schools where teachers presented themselves as positive role models demonstrating punctuality, concern for the physical well-being of the school building, concern for the emotional well-being of the pupils, and restaint in the use of physical punishment.
Staff of improving schools spend more time on achieving basic skills objectives.	There is an atmosphere that is orderly without being rigid, quiet without being oppressive, and generally conducive to the instructional business at hand.	Structured learning environments are particularly successful in urban classrooms.	
Principals at improving schools are assertive instructional leaders and disciplinarians, and they		Reductions in adult/child ratios are associated with positive school performance.	Children's behavior was better in schools where

TABLE 2.1 CONT'D

CHARACTERISTICS OF "EFFECTIVE" SCHOOLS

Brookover and Lezotte (1979)	Edmonds* (1981)	Phi Delta Kappa (1980)	Rutter and Others (1979)
assume responsibility for the evaluation of the achievement of basic skills objectives. Staff at improving schools accept the concept of accountability and are involved in developing (or using) accountability. Teachers at improving schools are not very satisfied or complacent about the status quo. There is more parent-initiated contact and involvement at improving schools (even though the overall amount of parent involvement is less). The compensatory education programs in improving schools de-emphasize para-professional involvement and teacher involvement in the selection of Comp-Ed bound students.		Successful schools are often supported with special project funds from federal, state and local sources. Successful urban schools are characterized by high levels of parental contact with the school and parental involvement with school activities. Successful schools frequently use staff development or inservice training programs to realize their objectives. The greater the specificity or focus of the training program in terms of goals or processes, the greater the likelihood of its success. Resource and facility manipulations alone are insufficient to affect school outcomes.	teachers were readily available to be consulted by children about problems and where many children consulted with teachers. Outcomes were better in schools where a high proportion of children held some kind of position of responsibility in the school system. A school's atmosphere is influenced positively by the degree to which it functions as a coherent whole, with agreed ways of doing things that are consistent throughout the school and that have the general support of the staff.

* Edmonds' characteristics are drawn from a later report. They do not come from his and Frederiksen's 1979 study.
SOURCE: D'Amico, Joseph, "Each Effective School May Be One Of A Kind". Educational Leadership, p. 61-62, December, 1982.

schools with unexpectedly high test scores may yield clues to what makes them effective. In his article Austin explains the method commonly used to identify the effective "outliers".

> The most common method of implementing the general model is regression analysis using mean values of the predictor variables to predict mean output achievement. For example, to examine the effectiveness of teaching reading in grade six to grade nine, the sixth-grade reading achievement mean and mean values of demographic variables could be used to predict the mean score for ninth-grade reading achievement. The discrepancy between a school's predicted performance and the actual performance is interpreted as a measure of its relative effectiveness for the time period studied. Schools are usually classified into effectiveness categories based upon the size of the discrepancy between observed and predicted scores (Austin, 1979:11).

Austin reports that the effective outliers usually have a "critical mass of positive factors" which are combined to make a difference. Many of the factors listed by the author are principal-related, others refer to climate and instruction. Austin emphasizes the role of the principal by stating that "a school that performs in unusually successful ways has a principal or a leader who is an exceptional person" (1979:12). He notes further that the levels of expectations for students held by the principals and teachers were observed to be unusually high, which motivated the students to perform at a higher level. Austin admits, however, that while the outlier studies can identify the exceptional schools and their characteristics, they cannot demonstrate how those characteristics developed in the schools.

Regina Paul and her colleagues (1982) used a goal survey to determine what was expected from schools in her area. In effect she used public opinion to legitimate school related decision making in such areas a curriculum, reduction of programs and priority setting.

> .....It seems clear that the primary employment of the data is likely to be for decision making regarding the relative importance of curricular and co-curricular offerings when contemplating eliminations or reduction of programs due to budget cuts (Paul, 1982:260).

> The major impact of using the survey results in conjunction with test result information and demographic considerations was that educational priorities drove the ensuing budget and staff processes rather than vice versa, which is frequently the case in school districts (Paul, 1982:267).

James Sweeney (1982) examined seven studies that have had significant impact on the educational community and researchers alike. The conclusions of these studies have been used by educators as guidelines, principles, or trend indicators. Sweeney's synthesis indicates that research identified the principal as a chief factor in school effectiveness. The six major characteristics pertaining to an effective principal are summarized from Sweeney as follows:

1. Coordinates instructional programs
2. Emphasizes achievement
3. Frequently evaluates pupil progress
4. Provides orderly atmosphere
5. Sets instructional strategies
6. Supports teachers

Sweeney's analysis of the seven studies is based on the following criteria:

> 1. Evidence that the study was internally valid, that is, whether the researcher(s) used appropriate measuring instruments and statistical analyses;
> 2. evidence of control for pupil characteristics;
> 3. research was conducted in schools categorized as effective or exemplary based on operational definitions of achievement; and
> 4. significant positive relationships between school achievement and instructional leadership behavior were reported.
>
> (Sweeney, 1982:346).

One of the notable studies analyzed by Sweeney is by Brookover and colleagues (1979). Brookover examined the hypothesis that differences in school social systems explain the differences in student outcomes. Three groups of Michigan elementary schools were chosen for this study: a state representative sample, a amajority white sample, and a majority black sample. A major portion of the variance in achievement between schools was explained by 3 components of the school social system: (1) school inputs, (2) school social structures; and (3) school climate. Subsequent case studies of school climate in four schools from low socio-economic areas pointed to the importance of leadership by the principal. In particular, it was noticed that in the effective schools the principal engaged in supervision (students and teachers) to a greater extent.

Another "landmark" study analyzed by Sweeney was that of Rutter and colleagues (1979), who made a detailed longitudinal study of 1500 junior high school age students in 12 inner-city schools of London. The students were assessed on school entry variables at ten years of age and reassessed at exit 3

years later. Effective and less successful schools were identified based on standardized test scores. During a 2 year period observations, interviews, and surveys were directed toward analyzing the kinds of environments provided for teaching and learning, as well as such variables as academic emphasis, teaching skills, student preparation, etc. Rutter and colleagues concluded that effectiveness was influenced considerably by the behavior of the head teacher (supervisor) as well as by the combined effect of ethos and leadership. Schools that functioned more effectively exhibited a number of common characteristics such as:

1. curriculum and approaches to discipline were agreed upon and supported by the staff acting in concert;
2. discipline was based on expectations set by the school (rather than individual teachers);
3. decisions were made at a higher level than the staff room;
4. academic expectations were emphasized; and
5. school atmosphere was influenced by the degree to which the school functioned as a coherent whole.

These conclusions are not inconsistent with a study by Miskel and colleagues (1979) who examined school effectiveness and its characteristics as perceived by the teachers, as defined by Miskel:

> Perceived organizational effectiveness is the subjective evaluation of a school's productivity, adaptability, and flexibility. Schools produce a variety of products and services in terms of instruction, learning, and extracurricular events. The relative quality and quantity, and efficiency of production are components of organizational effectiveness (Miskel et al., 1979:98).

Miskel and colleagues concluded that more effective schools, as perceived by teachers, are characterized by more participative organizational processes, less centralized decision making structures, more formalized general rules, and more professional activity.

Cohen (1982), in his analysis of school effectiveness research found that in addition to the characteristics already listed by Brookover and Rutter, considerable importance has been given to basic skills as instructional goals. Cohen indicates further that there is a "need for mechanisms for systematically and frequently assessing student performance in the basic skills" (Cohen, 1982:15). Cohen devoted some effort to an analysis of the Coleman Report.

The report is still considered the most significant among recent "landmark" studies, because of the controversy it has created. The government-sponsored research was carried out nation wide with 645,000 pupils, teachers and principals from 4,000 public elementary and secondary schools. The students in grades 1, 3, 6, 9 and 12 were given standardized ability and achievement tests. The students represented 6 racial and cultural groups. Sixty thousand teachers and principals completed questionnaires covering such topics as educational background, experience, and attitudes. Coleman and colleagues explored the following school-related characteristics:

1. Characteristics of Schools
   - physical facilities
   - curricula
   - age of textbooks
   - number of books in the library
   - presence of science laboratories
   - etc.
2. Characteristics of Staff
   - average teacher salary
   - teacher training
   - experience
   - ability
   - attitude
3. Characteristics of Students
   - socioeconomic and racial or ethnic background.

Coleman did not really address the question of school effectiveness per se. Rather, it can be said that he studied the relationship between input factors and output measures of the school, which is closer to the economic concept of efficiency. The question was not so much whether schools achieve what they set out to do, as how particular resources are related to particular outputs. To put it bluntly, Coleman's question was whether the provision of certain facilities is worthwhile in terms of improved output. This is more a question of cost effectiveness than school effectiveness. Madaus summarized the Coleman study this way:

> In the Coleman survey, "equality of educational opportunity" was posited as a school objective, but neither the precise school goals nor their actual accomplishments in this context were quantified. Rather, the school output measure was one of students' scholastic "achievement", narrowly defined in terms of performance on standardized tests of ability and attainment; implications for equality were then deduced from observations about variance in scholastic achievement and verbal ability between schools. Since such variance was small, it was deduced that schools were differentailly effective. By the same token, however, it could be argued that since all schools achieved at more or less the same level, all were equally effective (Madaus, 1980:22).

The issues addressed by the Coleman study were summarized by Madaus (1980:27):

1. Determine the extent to which racial and cultural groups were segregated from one another in the public schools.

2. Survey of the facilities and resources available in schools attended by different racial and cultural groups in order to determine the extent to which equal educational opportunities, in the form of resources and facilities, were differed.

3. How much students learn in school, as measured by standardized test performance.

4. To identify the relation between students' achievements and the resources and facilities present in the schools they attend.

The findings of the study can best be summarized by a statement from the author:

> Schools bring little influence to bear on a child's achievement that is independent of his background and general social context;.....this very lack of an independent effect means that the inequalities imposed on children by their home, neighbourhood and peer environment are carried along to become the inequalities with which they confront adult life at the end of school. For equality of educational opportunity must imply a strong effect on schools that is independent of the child's immediate social environment, and that strong independent effect is not present in American schools (Coleman, 1966:325).

The findings of the report were controversial. For example, when home background variables were controlled, school characteristics and resources appeared to make little difference in students' measured level of achievement.

Moreover, the largest differences in measured achievement occurred among students within the same school rather than between students of different schools. There was some suggestion in the report that some school factors, such as the teachers' verbal ability and the school's social-class composition could make a difference in pupils' achievement.

The response to Coleman's report constituted a whole range of reactions from the educational community, but in no case was the report treated with indifference. Considerable opposition was raised against the report, ranging from philosophical, such as "essentially, Coleman's survey denied the efficacy of schooling as a powerful equalizer in American society" (Madaus, 1980:28); to specific criticisms regarding the premises from which Coleman interpreted his data. In many cases, Coleman's conclusions were misinterpreted which only added to the controversy and confusion surrounding the reception of the report:

> The data actually showed that, first, there was an association between family background and pupil performance - that is, middle and upper middle class students did better in school than their peers from less well-off backgrounds. Second, students' achievement test scores depended more on their family background than on whether they attended a school with more or less of the kinds of characteristics and resources measured in the study.
>
> This finding was widely misinterpreted as meaning that "schools don't make a difference" - that there is nothing that schools can do to overcome the educational disadvantages produced by minority group status and poverty (Cohen, 1982:13).
>
> We feel that by paying too little attention to what goes on in schools, the Coleman survey actually misrepresented the work of schools and what they try to achieve. As a consequence of this misrepresentation, which is also a feature of studies based on reanalyses of the Coleman data, a distorted picture of what schools do has achieved a certain notoriety (Madaus, 1980:179).

The various shortcomings of the methods employed by Coleman and identified by his critics inspired several reanalyses, some of which confirmed Coleman's results, while others modified them. The value of Coleman's report lies in the fact that it compelled educators to review and re-evaluate their ideas on school effectiveness and consequently led to a new generation of school effectiveness studies.

The "post-Coleman" effectiveness studies addressed a great variety of school factors and gave a more complete picture of what schools are about. These studies received the attention of Alberta Education because of their usefulness in providing a basis for the design of evaluations (Torgunrud, 1982).

Purkey and Smith (1982) also did a detailed analysis of effectiveness studies for practical purposes. They reviewed the following four types of school effectiveness studies: outlier studies, case studies, program evaluation studies, and "other" studies. Their conclusion was that differences among schools do affect students' academic achievement.

> .....an academically effective school is distinguished by its culture: a structure, process, and climate of values and norms that channel staff and students in the direction of successful teaching and learning.....
>
> A cultural approach to school improvement also has the advantage of being equally applicable to elementary and secondary schools (Purkey and Smith, 1982:68).

Structure of the School Organization

The role of the school structure in effectiveness was studied by Bishop and George (1973). They define structure in the following way:

> A logical prerequisite of structure is the need to have policies, programs, standing orders, procedures and operating instructions which enable organizational members to behave in a prescribed manner. As assessment of organizational structure within schools may include factors such as faculty involvement in decision making, the degree of administrative control, the uniform adherence to rules and regulations, the exercise of professional latitude, or restrictions applied to various modes of organizational interactions (Bishop and George, 1973:67).

The results of the survey conducted by the authors indicate that highly anxious and tense teachers predominated in highly formalized and centralized schools. Under those circumstances, teachers were less likely to develop a student-centered teaching style, and their involvement in activities which would guide students toward independent thinking and action was minimized. Conversely in a less structured, more decentralized school organization, teachers demonstrated a higher incidence of motivator style of teaching.

On a similar note, Ratsoy (1973) examined the relationships between the bureaucratic, situational, and personal variables. He found that teacher satisfaction was lower in schools with a high degree of bureaucracy. In addition, in schools where teachers perceived an emphasis on hierarchical authority, student achievement was lower. Conversely, participative decision making was associated with greater teacher satisfaction, decrease in student alienations and improvements in student achievement.

Carrs and Grassie (1973) examined the relationships between teachers' perceptions of the structural characteristics of their schools, the leadership quality of their principals, and the extent of the satisfaction they express with their work and their colleagues:

> The findings of this research project are fully consistent with the findings of other research, and they suggest that teachers and schools are no different from other highly educated employees and their employing organizations in that the same incompatibilities between the processes of professionalization and bureaucratization have been brought to light (Carrs and Grassie, 1973:25).

A rather different kind of structure has been assessed after 6 years of operation by Young and Berger (1983). The elementary schools and junior high schools in the area of study had been operating on a year-round schedule with a 15 day vacation after every 45 days of operation:

> A majority of teachers indicated it was more difficult to teach under the year-round schedule than under a traditional school schedule and that better planning, organization, and preparation were required.....
>
> Forty-four percent of the teachers believed average students did better under a nine-month schedule, while 13 percent believed they did best under a year-round schedule (Young and Berger, 1983:58).

The Role of the Principal

Research repeatedly points to the principal as the focal figure in the establishment of an effective school. Considerable research has been done recently to answer such questions as 'what does the principal do' and 'what should the principal do'.

> Effective urban principals confront every problem. It doesn't seem to matter whether a problem is staff motivation, parent concerns, instruction, pupil behavior, or anything else. They are willing to deal with it (Brandt, 1979:77).

Martin and Willower (1981) shadowed five high school principals for five consecutive days each. They noted:

> The principals often performed several tasks simultaneously in an effort to conserve time. For example, one of the subjects was observed to skim and sign correspondence while conversing on the telephone. The principals also frequently stopped one task in order briefly to engage in another, or were interrupted in an activity by another person (Martin and Willower, 1981:74).

Martin and Willower identified some common features characterizing the job of the principal:

1. High volume and fast pace of work.
2. Variety, brevity, and fragmentation of tasks.
3. Preference for verbal interactions.
4. Preference for live action - engagement in the most current and pressing situations.
5. Preoccupied with the internal components of their contact network.
6. Operate as central authority figures, in command of their situations.

Klopf and colleagues (1982) pursued the question of job description for principals more from the point of view of what should be (requirements) rather than describing what is. Klopf noted that in addition to the energy and organization needed to keep up with everyday tasks, the principals must have interpersonal and leadership skills:

> Schools vary widely in the kind of leadership they need - from year to year and even from month to month. The person chosen to be principal must have a repertoire of leadership competencies and must be able to draw selectively on those strengths and skills to meet the demands of specific situations (Klopf et al, 1982:35).

Lemley (1983) has summarized the principal's required competencies in his "Principal's Dozen" commandments, which range from decision making and problem solving to employee motivation. Fairman and Renne (1983) advocate that goal focus is an important motivational tool for the principal:

> Awareness of the different levels of goal focus can help leaders gain insights into their followers' commitment to organizational goals (Fairman and Renne, 1983:30).

Hager and Scarr (1983) maintains that to be effective, principals must be instructional leaders. In order to achieve this, principals need to learn about effective time allocation and planning to enable them to spend the appropriate time on priority items.

Norton and Zeilinger (1983) pursued the ideal of the principal as an instructional leader and developed a "handbook" of tasks and competencies for principals involved in establishing programs for gifted students. This handbook is generalizable to the establishment of any program. It deals with all aspects from planning to communication to evaluation. The handbook can also be used "to determine essential program criteria as well as leadership behaviors important to successful initiation" (Norton and Zeilinger, 1983:106).

Sharp (1983) describes a professional development program for principals, in which they learn to recognize their own leadership styles and to make school improvement action plans.

> The principals identify what they need to do to effect the changes described in their projects; and they delineate the necessary resources and training for gaining the knowledge, skills, and attitudes necessary to achieve school improvement goals. They define the specific indicators they will accept as evidence that performance objectives have been achieved (Sharp, 1983:100).

Clauset and Gaynor (1982) designed a computer simulation model of a school, which makes it possible for administrators to test the potential effects of alternative school improvement policies. The authors claim that since there is a demonstrable interactive nature to school variables such as climate and leadership, this program is useful in that it allows the administrators to understand the relationships and study the consequences of policy interventions. "Hands on" understanding which provides the information base for decision-making, can be gained if the principals become more directly involved in evaluations:

> Working collaboratively with an evaluator, a principal can determine which program effects CAN be measured and, having measured them, make alterations where feasible (King and Thompson, 1983:51).

The idea of the principal's involvement in evaluation is extended further by Houston (1983) who provides directions for principals to set up a self-evaluation program for their schools.

The variety of activities prescribed by researchers for the principals is seemingly endless. In actual fact, however, time constraints curtail severely the principals' activities:

> Despite the rhetoric about the importance of instructional leadership, principals spend nearly all of their time on organizational maintenance and pupil control (Boyd, 1983).

One function that reportedly is often neglected by the principals is the introduction of new teachers to the workings of the school, and the first provision of guidance and support throughout the teachers' first year. Kurtz (1983) reports that administrators consider the process of introduction as relatively short term while teachers perceive it on a long term basis. Consequently, teachers often feel inadequately prepared and informed during their first year of teaching:

> Administrators must organize a program to help beginning teachers in the classroom, while at the same time, making every attempt to ensure that assignments outside the classroom do not lead to failure (Kurtz, 1983:43).

The most frequent causes of first-year teacher failures that were identified by Kurtz include:

1. Subject assignment (difficult courses and pupils).
2. Physical facilities (rooms and materials assigned according to seniority).
3. Location of classroom (isolated from mainstream).
4. Extra class assignments.
5. Lack of understanding of the District expectations.
6. Inadequate supervision (of teacher - no consultation).

School Climate

Miller (1981) points to administrative behavior as a highly important factor in facilitating good staff morale. Further, he observes that "there is evidence

that the social climate of the school and the morale of the staff can have a positive effect on pupil attitudes and learning" (Miller, 1981:483). Miller believes that morale is one of the major factors contributing to school effectiveness. In his article, he lists a number of activities to improve morale.

> The importance and interrelatedness of staff morale, school climate, and educational productivity to pupil learning and effective staff performance cannot be denied. The impact of the leader's behavior as a key element in establishing good morale, is strongly supported. This is true whether the leader is a teacher whose behavior affects his or her students or an administrator whose management style influences staff morale (Miller, 1981:486).

Smedley and Willower (1981) studied principal characteristics which were associated with "school robustness".

> Robust school environments are those perceived by students to be high in dramatic content. Schools that are perceived to be interesting, meaningful, challenging, and action-packed are more robust than schools perceived to be boring, meaningless, dull, and uneventful (Smedley and Willower, 1981:41).

They found that high levels of school robustness were associated with a humanistic pupil control behavior by principals. Further, elementary principals were perceived as more humanistic than high school principals, and elementary schools more robust than high schools.

Parks (1983) investigatd the difficulties principals encounter in motivating teachers in the present school systems:

> Until we stop rewarding teachers for getting one more degree and living one more year and start rewarding the achievement of results, teachers have no reason to improve their effectiveness. Leaders must be prepared to reward teachers on the basis of results achieved (Parks, 1983:13).

Parks offers 5 leadership principles on which principals should base their behavior in order to motivate teachers:

1. Make intangible personal return more visible.
2. Make work tasks and work environments more attractive.
3. Make work goals and their achievements more attractive.

4. Relate work tasks to achievement of work goals.
5. Relate achievement of work goals to personal return.

Kelley (1981) emphasizes the influence of climate on school effectiveness:

> .....concerns about student productivity in a school environment should lead to an investigation of that environment and efforts to improve the conditions experienced by the students (Kelley, 1981:183).

Kelley proposes that principals should audit the climate in their schools, and gives a step-by-step audit procedure. Kelley defines climate as "the interaction between satisfaction and productivity for groups and individuals who live and work in school environments" (Kelley, 1981:181).

Haas (1983) indicates that the foremost feature of a "businesslike", effective school is the productive use of time and effort. The business like school is characterized by:

1. Orderliness and predictability
2. Giving recognition to the value of time
3. Emphasis on excellence
4. A sense of purpose, openness, and optimism

Haas provides techniques and activities to achieve these four characteristics.

The sense of openness described by Haas is achieved, in large part, by clear communications. Erickson and Pedersen (1966) were interested in major communications impediments.

The authors describe several categories of communication impediment factors and the implications that they have for the functioning of a school. The situational factors include the hierarchical structure, channel overloading, ecological impediments, and coding discrepancies. Personal factors include inept transmission and reception, failure to respond, a misplaced quest for power, and aversion to threat.

St. John (1983) also stresses the importance of effective communications:

> If high school principals and their assistants reserve time for carefully planning their school communications program and follow recommended planning strategies, they should see a significant improvement not only in communications, but in general school climate as well as staff morale and job satisfaction (St. John, 1983:27).

St. John provides a step-by-step guide for a comprehensive school communication program.

Extending the idea of communications further, Sagor (1981) states that the techniques of "shadowing" a student and experiencing school from his perspective can be used to assess the climate in school (to take a snapshot of life at school). Sagor reports using this technique successfully in his research. The "Day in the Life" strategy was used to unite the concepts of climate and effectiveness by assessing the climate of the school through an examination of the issues of the school effectiveness researchers have found to be critical.

> After conducting this type of assessment, a school staff can proceed to improve both climate and effectiveness through a unified intervention (Sagor 1981:190).

The principal is not the only individual with powerful influence on climate. Bray (1983) maintains that a teacher as an ecologist can orchestrate harmonious climate in the classroom.

Another proponent of the ecological approach is Hamilton:

> Ecological research does not deny that academic learning is critically important or that certain technical devices such as behavioral objectives can contribute to improving instruction. It does, however, consistently challenge simple portrayals of what schools do and easy prescriptions for making them more effective (Hamilton, 1983:71).

School climate can be significantly affected by the relationship between the principal and the teachers, particularly in the area of decision making. MacKay (1964) noted in his study that where decision making was centralized and authority relationships between principal and teachers highly visible, teacher satisfaction with school was significantly lower, as was pupil achievement.

Alluto and Belasco (1973) reexamined some of the popular "myths" about participative decision making, such as the notion that every teacher desires greater participation, and that there is some optimal level of participation that

applies to all. Their findings indicate that the desire for increased participation in organizational decision making is not equally and widely distributed throughout the school population. A simple relationship does not exist between the desire for increased participation and such desired organizational outcomes as increased administrative control and organizational commitment.

> In summary, our data indicate the necessity for educational administrative strategies which, first, recognize the existence of different patterns of decisional participation among the teaching population of a school system and then bring into action participative management programs designed specifically to respond to these varying decisional needs (Alluto and Belasco, 1973:39).

Based on the premise that the principal can make a fundamental difference in the performance of a school by involving staff members in school improvement planning, specific teacher and program development, and assessment, Snyder (1983) proposes an instructional leadership model.

> In the model, the school year is divided into three parts with a major instructional leadership function for each: planning (September and October), developing program and staff (November through April), and evaluating (April and May).
>
> Collaborative decision making, problem solving, and planning are necessary to the success of activities (Synder, 1983:32).

While school climate is significantly modified by the principal and by the interactions between the principal and the teachers, as has already been stated, it must not be forgotten that student characteristics and background also contribute to the tone of the school, as do parental attitudes and expectations.

Tyler (1983) reminds us that schooling is a human service which should be sensitive to the changing human needs. For example, schools are increasingly expected to provide a surrogate home for students whose mothers work. The percentage of mothers of school aged children in the work force in the U.S.A. increased from 26% in 1960 to 59% in 1980. This fact is reflected in different needs on the part of the students, which have a corresponding impact on the climate of the school.

> Efforts to improve the effectiveness of schools cannot be intelligently directed without understanding the dynamics of particular schools: the actions and influences of parents, teachers, students, other community members, and community organizations - and the ways in which these influences operate (Tyler, 1983:462).

Tomlinson (1981) points out that the social role of teachers has also changed over the years. While in the 1950's teachers were role models, who were not responsible for how much the students learned (that was up to the students), now the onus is on the teachers to motivate students to learn. In effect, the responsibility for learning now resides with the teacher. Tomlinson argues that this change in attitude is responsible for the perceived decline in achievement. In the 1950's there was a belief that student achievement varied according to the ability (IQ) and effort of the child. Now, because of the imperative to educate all children, the casual disregard for low achievers that was acceptable before is no longer permissible. This fact should be kept in mind when assessing the effectiveness of schooling today.

Scott and Walberg (1979) agree that there are other factors in addition to the child's ability which influence academic learning:

1. Student - student ability and motivation.
2. School - amount and quality of instruction as well as the social-psychological morale of the classroom group.
3. Home - the educationally stimulating qualities of the home environment.

School Evaluation

The complexity of the human service called schooling is summarized with this statement:

> To ask a global question about whether a school is effective or ineffective is virtually a useless exercise. Effectiveness is not one thing; hence, a one-dimensional definition is not adequate (Hoy and Miskel, 1982:320).

Investigation of the effectiveness of schools should begin with clarifying the expectations that the evaluators have of the schools. Overly and colleagues (1982) discuss the validity of using goal surveys in the communities, to find out what the public expects of schools. While they agree that such surveys may have

some utility if properly carried out, Overly and his colleagues concur that it is the school's professional prerogative to set goals rather than following the whims of the community. Guerriero (1980), who used a goal survey successfully with educators and community groups, presents a more optimistic picture. In his survey, each of the goal statements were translated into a set of four specific goal-related objectives. These objectives were used in the survey in the form of questions such as: "How important do you believe it is that the student....." The author makes this conclusion about the survey:

> In summary, it appears that there is considerable support for students learning the "basics". However, there is even greater support for students becoming good citizens, having a good self-image, being self-confident, and exhibiting proper health habits. It is not an either/or situation. Many of the noncognitive objectives can be addressed as an integral part of the "basic skills" instructional process (Guerriero, 1908:345).

It appears to be useful to be aware of the expectations that parents have of the school, since, as argued by Bumstead (1982), many parents send their children to private schools as a result of unfulfilled expectations. Bumstead's survey indicates that students withdraw from public schools because of discipline standards, structure of acitivities and curricula, and caring about individual students. Based on interviews with parents about their expectations for schools, Bumstead recommends the following activities for principals:

1. Establish a rigorous academic program in disciplined atmosphere.
2. Provide a clear and consistent focus on academics.
3. Hold teachers accountable to standards of excellence.
4. Encourage more active parent participation.

(Bumstead, 1982:42).

Goodlad (1983) conducted a study of schooling using 38 elementary, junior and senior high schools. He found that the expectations of parents often differed from those of the educators and very often were not related to the reality of their school situations.

> We have, it seems, extraordinary faith in education and grandiose expectations for schools. We expect schools to teach the fundamentals, expose students to the world's knowledge, socialize them into our ways of governing and conducting economic affairs, develop their individual talents, and "civilize" them even when we as parents frequently feel unable to do so. Yet successive waves of

> disaffection for schooling concentrate almost exclusively on the small piece of academic shoreline we measure with achievement tests (Goodlad, 1983:468).

The demanding expectations that parents often have of schools, and the limited evaluation means with which parents and communities judge the effectiveness of their schools, often place schools in the uncomfortable position of having to defend their honor unarmed. It is difficult to judge the effectiveness of the amorphous processes taking place in the schools.

> Perhaps we can sharpen our focus on the purpose of evaluation and accreditation by thinking of the process as a snapshot of a school in a given time and place in its history. The detail is recorded. If focus and shutter speed are correct, the sense of movement, if any, will also be captured. Each of us knows that objectives should be established and implemented, and then the degree to which they are met should be evaluated.
>
> Certainly evaluation and accreditation at their best supply a systematic external assessment of the degree to which an institution is fulfilling its stated purposes and objectives. Something is said both to the school community and to the public at large (West, 1982:53).

It is evident that an effective method for evaluating school effectiveness is necessary. Farley (1981) advocates using several evaluation methods concurrently. In particular, he advocates supplementing the standard evaluation practices with student interviews: "When it comes to evaluating the effect of everything from classroom instruction to schoolwide environment, students are an indisputable source of expertise" (Farley, 1981:185).

Rogus (1982) has designed an evaluation checklist for principals. This checklist attempts to address all the varied processes within the school. It can be used both by the principal and the teachers, for either formative or summative evaluation of their school.

Ornstein (1983) offers a teacher effectiveness evaluation model which can be used by the principals. The model consists of eight categories describing teacher characteristics, experience, and properties; student background, characteristics, and properties; classroom or process variables; and student outcomes. Ornstein provides an explanation on how the variables are to be found and assessed.

While many researchers were asked the question 'how can we make a school more effective', others, such as Wynne (1981) asked 'what does a good school look like'. After a ten year study of 140 schools, Wynne concluded that: "In a sense, the goodness in a good school was pervasive" (1981:377). He reports that "coherence" was the characteristic most commonly associated with the good schools in the study. The good schools in Wynne's study exhibited coherence, careful hiring practices (new teachers had to fit into the team), good communications, supervisory staff supportive of teachers, incentives for learning, consistent pupil discipline enforcement, pro-social extracurricular activities and school spirit.

Edmonds (1979) did a similar study in the poor urban areas, using effective and ineffective schools with matched characteristics:

> The similarity in the characteristics of the two pupil populations permits us to infer the importance of school behavior in making pupil performance independent of family background. The overriding point here is that, in and of itself, pupil family background neither causes nor precludes elementary school instructional effectiveness (Edmonds, 1979:21).

Edmonds isolated what he terms indispensable characteristics of effective schools:

1. Strong administrative leadership.
2. Climate of high expectations.
3. Orderly, businesslike atmosphere.
4. Teaching basic skills is top priority.
5. When necessary, school energy and resources can be diverted from other initiatives to basic skills.
6. Frequently monitored pupil progress.

Edmonds concluded that the effectiveness studies should be multivariate and employ longitudinal records of pupil achievement in a variety of learning areas. The use of standardized tests as a measure of school effectiveness has been criticized as inadequate and misleading by many researchers. When questioned about this in an interview, Edmonds had the following explanation:

> I acknowledge that available standardized tests do not adequately measure the appropriate ends of education. However, I also argue that it is important for students to learn minimum academic skills as a prerequisite to successful access to the next level of schooling.....

> And despite all the limitations of standardized tests, I would argue as forcefully as I can that they are - at this moment - the most realistic, accurate, and equitable basis for portraying individual pupil progress (Brandt, 1982:14).

Husen (1983) did a cross-national comparative study of educational systems. After a thorough analysis and comparison of American and European systems, his conclusion is:

> Finally, I dare to submit that low standards are not the most serious problem with public schooling - neither in the U.S. nor in other nations with comprehensive structures and high retention rates.....
>
> The real, and most serious, problem concerns the way formal education relates to a highly technical society - and the institutional contradictions and goals conflicts that beset the school operating in a highly competitive society where formal schooling increasingly influences social status and life chances (Husen, 1983:460).

Knowing some of the characteristics of effective schools is only one step removed from attempting to develop those characteristics in average schools. Ingrassia (1982) describes one such program, where a new principal cooperated with the staff to improve an ineffective school. Their master plan had four components:

1. Administrative leadership: show it!
2. Climate: improve it!
3. Building philosophy: clarify it!
4. Curriculum: teach it! - to every student in the school.

After describing the program in some detail, Ingrassia concludes:

> If an individual school wants to consistently measure the progress of its students, it must develop its own testing program (Ingrassia, 1982:35).

A similar school improvement program is described by Slaby (1983). In this case, a survey of students, teachers, parents and community was used to develop a code of behavior and a policy for punishment. This served not only to ensure uniform disciplinary measures, but it eliminated arguments and challenges to the methods of punishment, since these methods were, in effect, sanctioned by the community. A very interesting feature of the program was the Alternative Learning School:

> To remedy the concern that a suspension may become a "vacation" for the student, an Alternative Learning School (ALS) was developed. Each student who was suspended was required to attend. ALS met after school for approximately four hours. During this time, the student completed regular classroom assignments.
>
> The ALS consisted of three to four teachers who individually instruct students who are having difficulties in school. During the suspension, the student's classroom teacher assigns the regular classroom work. It is the responsibility of the student to complete this work in ALS. Upon completion of the suspension, the student returns to his or her regular class (Slaby, 1983:65).

Sharpes (1983) describes an improvement program for high school which promotes academic achievements. The management model that Sharpes recommends consists of three steps: defining school mission goals, organizing the school's resources, and evaluating the results of the program. Sharpes advocates formative evaluation:

> The application of formative evaluation techniques - analyzing program operations while they are in progress - allows the school leadership the opportunity to correct the course of a program's direction to make it more effective (Sharpes, 1983:11).

Summary

An overview of related literature was presented in this chapter in three sections.

The first section addressed the organizational effectiveness studies that have been conducted in industry in the 1960's and 70's. Basic definitions and concepts were introduced.

The second section described the adaptation of organizational studies to the study of school effectiveness.

The third section of this chapter explored school effectiveness studies in some detail. Studies related particularly to the structure of the school organization, the role of the principal, the school climate, and school evaluation have been documented. The school effectiveness research indicates that schools are complex human organizations, where social interactions and climate are very important factors influencing effectiveness. The principal is repeatedly described as the key factor in creating an effective school.

CHAPTER III

DESIGN AND PROCEDURES OF STUDY

In this chapter, the design of the study is described in the first section, followed by the description of the conceptual framework which guides this study. In the third section the design of the questionnaire is described followed by the report on data collection and analysis procedure.

Design of the Study

The purpose of the design was to obtain four types of data from the subjects, in order to answer the first four problems. The four types are: demographic information, rating and ranking of the criteria provided, self-report of school performance on the provided criteria, and evaluation of the components of the conceptual network.

Data were collected by means of a questionnaire designed specifically for this study. Two forms of the questionnaire had to be produced, since the final number of criteria to be tested was excessive. This list of criteria was split in half, with one half of the criteria appearing in form A and the other half in form B of the questionnaire. Both forms of the questionnaire are identical in every other respect.

Using two forms of the questionnaire necessitated the performance of two separate data analyses. In addition, the two forms of the questionnaire required a comparison with respect to validity and reliability.

The Conceptual Framework

The researcher chose the conceptual framework proposed by Steers (1977:4) because its flexibility and attention to individual organizational members makes it adaptable to the school setting. Before explicating the adaptation made by the researcher, the Process model proposed by Steers will be discussed.

> Such a model is proposed in the belief that managers and organizational analysts can do more to facilitate effectiveness if they understand the major processes that influence it. Our process approach to understanding effectiveness consists of two related parts. First we will examine three interrelated dimensions that are believed to be appropriate for an analysis of effectiveness. Following this discussion, we will present an analytical framework with which to organize the various related aspects of research on organizational performances and success (Steers, 1977:4).

The three components of Steers' multi-dimensional perspective are: goal optimization, a systems perspective, and an emphasis on human behavior.

Goal Optimization

> .....instead of evaluating success in terms of the extent to which goal attainment has been maximized, we recognize a series of identifiable and irreducible constraints (for example, money, technology, personnel, and so on) that serve to inhibit goal maximization. When these constraints are recognized and accounted for, it is then possible to identify the resulting optimized goals (that is, an organization's desired goals as constrained or modified by available resources).....Thus, effectiveness is evaluated in terms of how well an organization can attain its feasible goals.

Systems Perspective

As Steers points out, this aspect of his multi-dimensional approach is not necessarily in conflict with the previous one.

> Although some have argued that the "goal" approach to organizational effectiveness and the "systems" approach are incompatible, it is suggested here that the two can indeed be quite complimentary.....our own goal approach conceives of goals within a dynamic framework. Goals are not treated as static, ultimate states, but rather they are seen as being subject to change over time.

Behavioral Emphasis

This third component allows the researcher to look "inside" the system, and recognizes that ultimately, the success of an organization depends on the work of the individual employees.

> .....we shall integrate the micro and macro levels of analysis and examine how the behavior of individuals and groups ultimately contributes to, or distracts from, organizational goal attainment.

A Framework for Analysis

In order to categorize the numerous and varied effectiveness criteria as presently available, Steers devised an analytical framework.

> This reliance on essentially piecemeal data presents a significant integration problem. First, it is necessary to organize and review the various materials that relate in some manner to certain aspects of goal-directed behavior. Next, these diverse sets of findings must somehow be tied together into a logical, consistent body of knowledge so that useful generalizations can be made concerning the patterns of relationships that exist between major sets of organizational variables as they influence effectiveness.

Steers proposes the following framework to tie together the diverse findings:

> .....contributing factors to the ultimate success of an organization can be found in four general domains.....these four general areas are:
> (1) organizational characteristics;
> (2) environmental characteristics;
> (3) employee characteristics; and
> (4) managerial policies and practices.

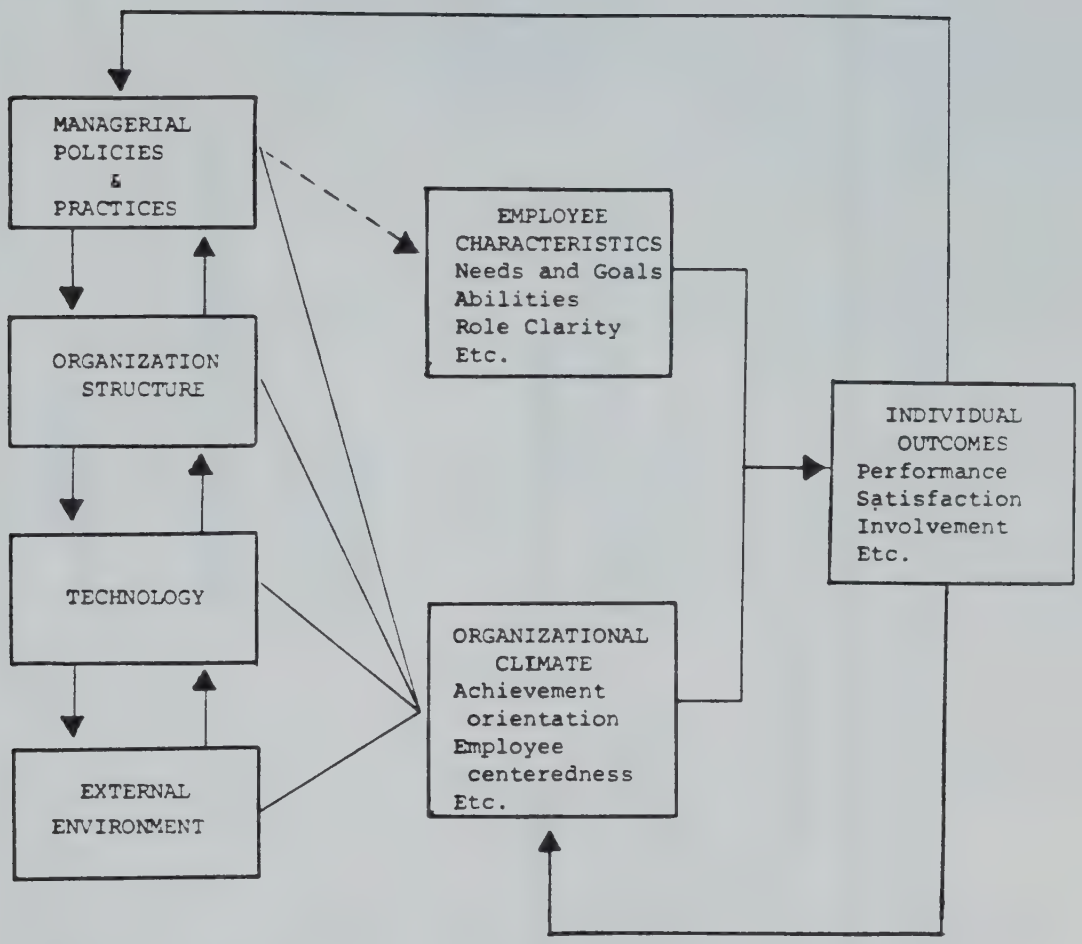
Table 3.1 describes the four areas, and Figure 1 shows how they relate to the individual members.

Organizational Characteristics

This area includes organizational structure and technology.

FIGURE 1

A PARTIAL MODEL OF THE DETERMINANTS OF
EFFECTIVENESS - RELATED INDIVIDUAL OUTCOMES



NOTE: The dotted line from managerial policies and practices to employee characteristics denotes the influence of management on such characteristics through employee selection and training.

SOURCE: Richard M. Steers

Organizational Effectiveness: A Behavioral View
Santa Monica, California: Goodyear 1977, p. 104.

TABLE 3.1

FACTORS CONTRIBUTING TO ORGANIZATIONAL EFFECTIVENESS

ORGANIZATIONAL CHARACTERISTICS	ENVIRONMENTAL CHARACTERISTICS	EMPLOYEE CHARACTERISTICS	MANAGERIAL POLICIES & PRACTICES
STRUCTURE	EXTERNAL	ORGANIZATIONAL ATTACHMENT	
Decentralization	Complexity	Attraction	Strategic goal setting
Specialization	Stability	Retention	Resource acquisition & utilization
Formalization	Uncertainty	Commitment	Creating a performance environment
Span of Control			Communication processes
Organization Size			Leadership & decision making
Work-unit Size			Organizational adaptation & innovation
TECHNOLOGY	INTERNAL (CLIMATE)	JOB PERFORMANCE	
Operations	Achievement Orientation	Motives, Goals & Needs	
Materials	Employee Centeredness	Abilities	
Knowledge	Reward-Punishment Orientation	Role Clarity	
	Security vs. Risk		
	Openness vs. Defensiveness		

SOURCE: Richard M. Steers, Organizational Effectiveness: A Behavioral View. Santa Monica: Goodyear. 1977, p. 8.

> Structure refers to the relatively fixed relationships that exist in an organization with respect to the arrangement of human resources. It is the unique way an organization fits its people together to create organization.
>
> .....technology refers to the mechanisms used by an organization to transform raw inputs into finished outputs.

Environmental Characteristics

This area focuses on the task environment in which the organization functions. Steers recognizes two aspects of the environment: external and internal.

> The external environment refers to those forces that arise outside an organization's boundaries that affect internal organizational decisions and actions.
>
> The internal environment, known generally as organizational climate, includes a variety of perceived attributes of the work environment.....that have been shown to be related to certain facets of effectiveness, particularly those measured on an individual level...

Employee Characteristics

This aspect examines the relationship of individual differences of employees to effectiveness.

> Different employees possess different outlooks, goals, needs and abilities. These human variations often cause people to behave differently from one another, even when placed in the same work environment.

Managerial Policies and Practices

This aspect focuses on the role of management in organizational performance

> Here we will be concerned about how variations in managerial policies, practices and style, facilitate or hinder goal attainment. In general, it will be shown that managers play a central role in the success of an enterprise by planning, coordinating and facilitating goal-directed activities.

Adaptation to Schools

The four areas of their sub-elements are described by the researcher in terms of the school as an organization. The adapted and expanded conceptual framework, as used in this study, is described below. Figure 2 is a graphical representation of the adapted framework.

1. Structure and Technology

   The structure is composed of job and role definitions, the hierarchy of authority, as well as rules and schedules which coordinate the functioning of the members. This includes the definition of teacher's duties, the timetable and the supervision of students, as well as the definition (formal or informal) of the status of the teachers in the school, of the degree of decentralization of decision-making, and of professional latitude that teachers may have with respect to such matters as methods, team teaching, etc.

2. Managerial Policies

   These are policies designed to ensure the running, upkeep and survival of the school. They are made by the principal, within the constraints of the policies set by the Central Office (and, of course, the laws).

3. Managerial Behavior

   This category refers to the principal's actions as perceived and interpreted by the rest of the school. These actions include the principal's leadership and decision-making style, and his communication skills. The principal's actions often interpret or personify the rules and policies for the school. This behavior may have a significant influence over the degree to which teachers and students accept his policies.

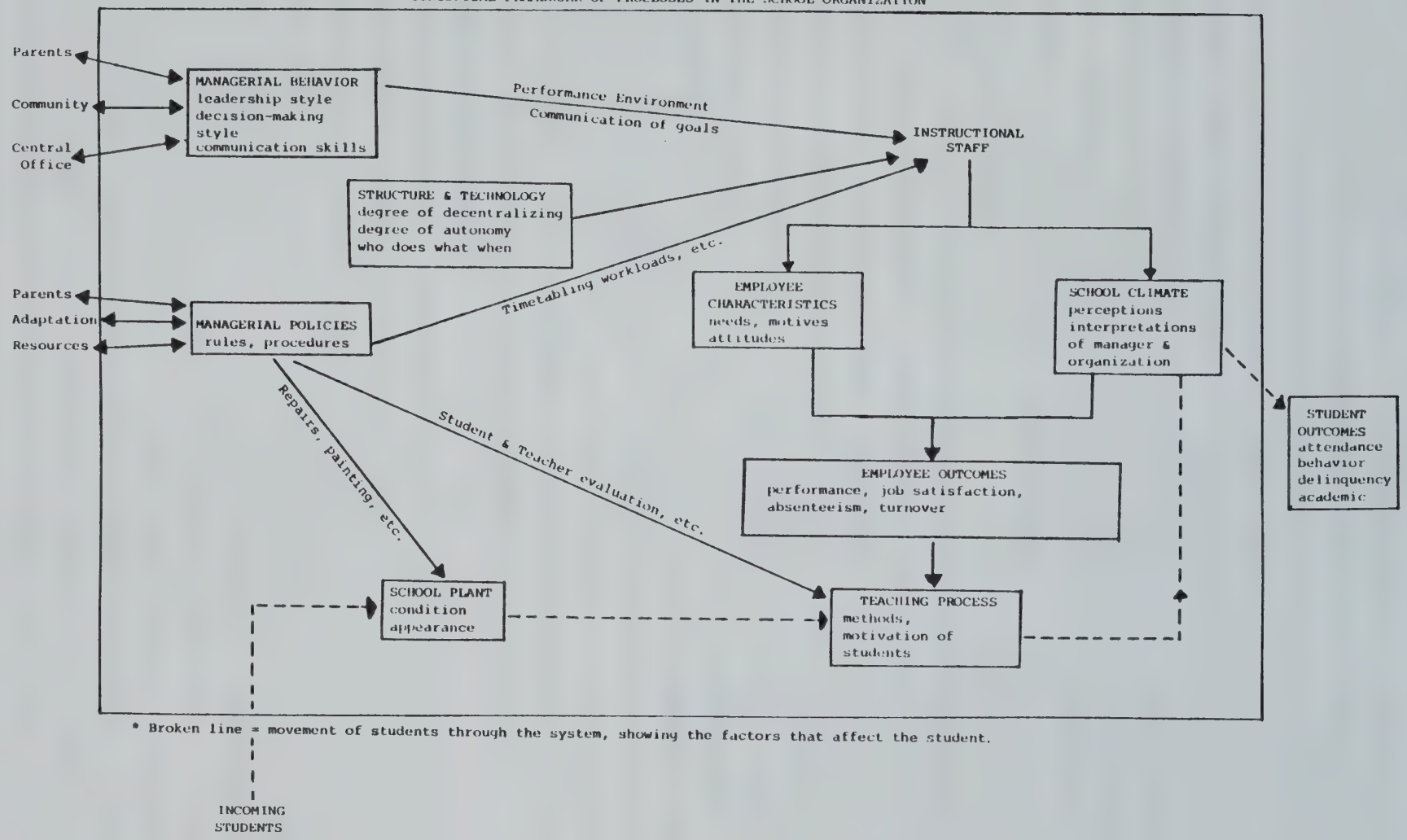
4. Employee Characteristics (Teacher Characteristics)

   This area refers to the personal traits, aspirations, needs and attitudes of the teachers. The teachers' potential for attachment to the school is another important characteristic. This category also focuses on the individuality of employees which give rise to individual and different ways of perceiving the organization. This is particularly important in the school setting, where teachers are "individual operators" who have a direct effect on the students. It is important, therefore, that the principal insures that the teachers' perceptions of their duties and of the goals and policies of the school, be in agreement with actual fact.

FIGURE 2

THEORETICAL FRAMEWORK ADAPTED FROM STEERS BY VERONIKA BOHAC

CONCEPTUAL FRAMEWORK OF PROCESSES IN THE SCHOOL ORGANIZATION



* Broken line = movement of students through the system, showing the factors that affect the student.

5. School Climate

The reality of school life as perceived by teachers and students, is described by this category. The way in which teachers and students interpret the structure, managerial policies and managerial behavior, establishes their feelings toward the school, and gives rise to their personal definition of their own position or role in the school.

School climate (from the teachers' perspective) could be summarized as the interaction between employee characteristics and the administration.

School climate from the point of view of the students could be described as the interaction of student characteristics with managerial behavior, teacher outcomes, and the teaching process.

6. Employee Outcomes

Teacher outcomes are direct contributors to the teaching process, hence to teaching effectiveness. They include such factors as the actual performance, job satisfaction, absenteeism and turnover. Teacher outcomes could be summarized as the degree to which a teacher is willing to cooperate with the school toward the achievement of its goals. Student outcomes, such as attendance, behavior and achievement, can be considered as indicators of school effectiveness. Generally, two major factors affecting student outcomes are the teaching process and the school climate. It is important to note the influence of the family on student characteristics and, by extension, on student outcomes - as has been pointed out by the Coleman Report (Sweeney, Cohen, 1982).

7. The Teaching Process

The actual teaching methods, choice of instructional materials and student motivation are subsumed under this category. Teachers can exert direct influence over student outcomes through the teaching process. The principal's involvement in the teaching process is more covert, but significant nevertheless. The principal influences the performance of both students and teachers through the complex relationships of managerial behavior and school climate. A more direct influence of the principal occurs through managerial policies which guide the behavior or conduct of both the teachers and the students. Student supervision, discipline procedures and teacher supervision are some of the visible indicators of principal's input to the teaching process.

8. The School Plant

Both the safety and the aesthetic aspects of the school can affect the perceptions of teachers and students about the school, thus influencing school climate (this statement is supported by Mortimore (1981) and numerous others). Since school climate affects both the student and teacher outcomes, the condition of school plant contributes indirectly to school effectiveness.

9. External Environment

The parents, the community and the Central Office (Superintendent) represents the major forces from the External environment. Since the principal is the official spokesman for the school, the probability is great that he would be involved in the majority of the contracts with the External environment. This requires on his part the capacity for planning, adaptation and entrepreneurship. Despite the importance that is attached to the interaction with the External environment by the systems model proponents and by Steers in his Process model, Boyd (1983) points out that the contrary is often true in reality. He claims that in actual fact, most of the principal's time is spent on enforcing managerial policies at the expense of these "liaison" activities. In the present study the focus was primarily on the processes inside of the school.

The above descriptions of the categories attempting to translate and adapt the framework of Steers' Process model to the school setting. This adapted conceptual framework endeavours to identify and chart the interconnections between the major processes of the internal organization of the school, and their relationship to school effectiveness. The framework can be used as a tool for categorizing the results and recommendations of research on school effectiveness, and for placing them in perspective with regard to the total internal school organization.

Design of the Questionnaire

The questionnaire consists of three sections. Section A contains fixed-alternative type of questions regarding demographic information. Section B

consists of a list of criteria accompanied by two columns of six point Likert scales. Section C contains a forced choice ranking of the criteria, two fixed-alternative questions, and a ranking of the conceptual network components.

Section A

The information sought in this section was used to investigate problem 1, which poses the question whether demographic differences affect the response of the principals.

The following differences were hypothesized to be potential influencing factors: (Q. 1-1) type of jurisdiction; (Q. 1-2) public or separate system; (Q. 1-3) urban or non-urban community; (Q. 1-4) elementary, junior or senior high school; (Q. 1-5) Bachelor of Education degree or higher; (Q. 1-6) male or female. Figure 3 shows the first page of the questionnaire, which contains section A.

Section B

Selection of Criteria. The criteria were selected by the researcher in the following manner:

1. All the criteria appearing in the literature that was surveyed by the researcher were recorded.
2. Duplicate criteria were collapsed.
3. Purely industrial criteria such as "profit", "productivity", "efficiency" (ie., cost/benefit ratio), etc., were eliminated.
4. The list of usable criteria was then ready for the actual selection. The number of criteria was still in excess of 100. The rationale for further selection was twofold:
   a) Criteria must be observable (overt expression of their existence must be detectable). This eliminated criteria such as, for example, "readiness" which is usually defined in terms of overall judgement concerning the probability that the organization could successfully perform some specified task if asked to do so (Campbell, 1976, 7:37).
   b) Criteria that appeared in several studies and were shown to correlate with effectiveness, are likely to be significant and should be included.

SECTION A (FORM A)

1. Which one of the following best describes your position at the present time ?

   1) Trustee ____ 2) Superintendent ____ 3) Principal____ 4) Teacher____ 5) Vice-principal____ 5

2. Indicate the type of school jurisdiction you are associated with :

   1) District ____ 2) Division ____ 3) County ____ 6

3. Your system is :

   1) Public____ 2) Catholic Separate____ 3) Protestant Separate____ 4) Other:_____ 7

4. Your school is located in:

   1) Large city (over 50 000)____ 2) City____ 3) Town____ 4) Village____ 8

5. Indicate the type of school at which you teach/administer.

   1) Elementary School (gr 1-6) ____ 4) Jr High-High School (gr 7-12) ____ 9

   2) Elementary-Jr High (gr 1-9) ____ 5) High School (gr 10 - 12) _____

   3) Junior High School (gr 7-9) ____ 6) Other (specify grades or specialization)

   _____

5. What is the highest level of education you have attained?

   1) High school _____ 7) 2 or more bachelors _____ 10,11

   2) 1 year of university or equivalent _____ 8) Masters degree _____

   3) 2 years of university or equivalent_____ 9) 2 Masters degrees _____

   4) 3 years of university or equivalent ____ 10) Doctorate _____

   5) Bachelor of Education _____ 11) Other:_____

   6) Bachelor and Teaching Diploma _____ (Specify)

7. Please indicate by a check mark : You are Female_____ Male ____ 12

Figure 3 Section A (Page 1) of the Questionnaire

SECTION A (FORM B)

1. Which one of the following best describes your position at the present time ? 5

   1) Trustee ____ 2) Superintendent ____ 3) Principal____ 4) Teacher____ 5) Vice-principal____

2. Indicate the type of school jurisdiction you are associated with : 6

   1) District ____ 2) Division ____ 3) County ____

3. Your system is : 7

   1) Public____ 2) Catholic Separate____ 3) Protestant Separate____ 4) Other:_____

4. Your school is located in: 8

   1) Large city (over 50 000)____ 2) City____ 3) Town____ 4) Village____

5. Indicate the type of school at which you teach/administer. 9

   1) Elementary School (gr 1-6) ____ 4) Jr High-High School (gr 7-12) ____

   2) Elementary-Jr High (gr 1-9) ____ 5) High School (gr 10 - 12) ____

   3) Junior High School (gr 7-9) ____ 6) Other (specify grades or specialization)

   _____

6. What is the highest level of education you have attained? 10,11

   1) High school _____ 7) 2 or more bachelors _____

   2) 1 year of university or equivalent _____ 8) Masters degree _____

   3) 2 years of university or equivalent_____ 9) 2 Masters degrees _____

   4) 3 years of university or equivalent ____ 10) Doctorate _____

   5) Bachelor of Education _____ 11) Other:_____

   6) Bachelor and Teaching Diploma _____ (Specify)

7. Please indicate by a check mark : You are Female_____ Male ____ 12

Figure 3 Section A (Page 1) of the Questionnaire

5. A panel of five educators currently involved in graduate studies in Educational Administration at the University of Alberta, was consulted throughout the selection process. The panel consisted of 2 teachers, 2 principals, and one superintendent of a large school system. The criterion for selection was that at least three of the five panel members had to agree on an item before it was accepted.
6. The panel was presented with the total list of usable criteria and a list of the criteria selected by the researcher. As a result of the panel discussion, the selected list was modified and reduced further.
7. The criteria were then categorized under the components of the conceptual network.
8. Further reduction of the numbers was possible where two specific criteria were expressed by a single inclusive criterion. The Calgary Public School Board's school effectiveness evaluation checklist and the Edmonton Regional Office of Education evaluation checklist were used as guidelines in the selection of criteria.
9. The final list resulted in 60 criteria, which were categorized under the components of the conceptual framework. A list of the 60 criteria is included in Table 3.2.

The Format for the Questionnaire

1. Two members of the faculty in the Department of Educational Administration at the University of Alberta were consulted on the first two drafts of the questionnaire with regard to both format and content. The Computer Application Analyst of the same department was consulted on the format.
2. The third draft of the questionnaire was piloted among eight administrators currently enrolled in the M.Ed. and Ph.D. programs in the Department of Educational Administration at the University of Alberta. The members of the faculty consultation panel were not included in the pilot team. The responses and written comments of the pilot members were processed by the researcher, as suggested by Engelhart (1972:101). A discussion with the pilot team followed. Their comments resulted in clarification of wording, alteration of the size of the print, and the reduction of the number of criteria from 58 to 29.

TABLE 3.2

Total List of Criteria

	Criterion No.	Criteria
		I. Structure and Technology
*	1	Appropriate degree of decentralization of decision-making
	1	Autonomy of teachers - professional freedom
*	2	Provision for contact and consultation with professional collegues
	2	Reduced number of students per teacher (small class size)
		II. Managerial Policies
*	3	Principal's involvement in coordination of instructional programs
	3	Time for teachers to plan together provided by principal
*	4	High norms and academic standards of school
	4	Uniform academic standards throughout school
*	5	Uniform standards of discipline throughout the school
	5	Staff development and inservice
*	6	Availability of financial resources
		III. Managerial Behavior
	6	Availability of appropriate instructional materials
*	7	Principal emphasizes achievement to students
	7	Principal's organizational abilities
*	8	Principal's awareness of what goes on in the school
	8	Principal's ability to encourage individual participation
*	9	Clearly stated circular goals and objectives
	9	Academic progress of students (as a group) checked by principal
*	10	Openness in staff-principal communications
	10	Fairness and expendiency in allocating funds
*	11	Effectiveness of supervisor of teachers
	11	System for monitoring school progress used

TABLE 3.2 (Cont'd)

Criterion No.	Criteria
	IV. Student Outcomes/Climate
12 * 12	Positive student attitudes
16 * 18	School perceived by all involved as acting as a coherent whole (Same criteria included in both forms)
	V. Teacher Outcomes/Characteristics
* 21	Positive attitudes of teachers toward their work in school
22	Teachers' goals are compatible with school grants
	V. Teacher Outcomes/Performance
19	Punctuality of teachers (start and end lessons on time, etc.)
* 19	Teachers' job satisfaction
23	Instructional effectiveness
* 20	Teachers' commitment to school goals
20	Teacher participation in non-compulsory activities
* 22	Innovative teaching
21	Teachers as role models for students
	VI. School Climate - Students
* 14	Students feeling that teachers are trying to help them
14	Teachers indicate expectations that all students can succeed
* 13	Students permitted to hold positions of responsibility
15	Teachers concerned for emotional well-being of students
* 16	Sense of ownership that students have about the school
	VII. School Climate - Teachers
18	Teacher's satisfaction with principal
* 15	Communication between staff and students
13	School spirit - close, warm atmosphere
* 17	Staff espirit de corps (group cohesiveness)
17	Parental contact and interest

TABLE 3.2 (Cont'd)

	Criterion No.	Criteria
		VIII. The Teaching Process
*	23	Most of the school day is spent on actual instruction
	24	Student-centered teaching methods (sensitive to individual differences)
*	24	Staff assumes responsibility for teaching basic skills
	25	Pupil progress frequently monitored by teachers
*	25	Positive reinforcement for student's efforts
	26	Class time spent productively on task
*	26	Homework assigned and checked regularly
		IX. The School Plant
*	27	Spacious classrooms
	27	Adequacy of the janitorial service
*	28	Adequate filing cabinets for all teachers
	28	Quiet work space for teachers
*	29	Satisfactory duplicating and typing services available
	29	Sufficient number of parking spaces and plug-ins
*	30	Condition of school building
	30	Pleasant staff room facilities
*	31	Condition of equipment
	31	Condition of school grounds

* Indicated "odd" items, included in form A. The "even" items will be in form B.

3. The decision regarding the reduction of the number of criteria resulted in the production of two forms of the questionnaire. The splitting of the criteria was done in the following manner:
   a) The criteria grouped under the components of the conceptual network were numbered.
   b) The odd numbered criteria from each component grouping were included in form A of the questionnaire.
   c) The even numbered criteria were included in form B of the questionnaire. Table 3.3 shows the 60 criteria with their designations.
4. Two pilot studies of the questionnaire were done, one in an urban separate system and one in a non-urban public system.
5. As validity check, two criteria that received a low rating in terms of their importance for school effectiveness, from the panel and the pilot groups, were included in each questionnaire as validity checks.
   These items are:
   - Sufficient number of parking spaces and plug-ins;
   - Adequate desks and filing cabinets for teachers;
   - Size of classroom; and
   - Pleasant staff room facilities.

   One item from each form was also included on the other form. These items were considered important enough by the pilot members to be included in both forms of questionnaire. The total number of criteria hence rose to 31. The shared items are:
   - School perceived by all involved as acting as a coherent whole; and
   - Positive student attitudes.

   Figure 4 contains the finished section B of each form of the questionnaire.

Section C

For ease of responding, the criteria in section B were arranged into six groups. In section C the respondents were required to choose the most important criterion from each group. This was done in preparation for the eventuality that the criteria might receive a uniform rating.

The ranking of the components of the conceptual network does not involve force choice. The forced choice was abandoned, based on strong suggestions to do so, by the members of the pilot teams. Figure 5 shows the final format of section C of the questionnaire.

TABLE 3.3

Criteria Designated for Form A and B

Criterion No.	Form A
	I. Managerial Policies
1	Appropriate degree of decentralization of decision-making
2	Provision for contract and consultation with professional colleagues
3	Principal's involvement in coordination of instructional programs
4	High norms and academic standards of school
5	Uniform standards of discipline throughout the school
6	Availability of financial resources
	II. Managerial Behavior
7	Principal emphasizes achievement to students
8	Principal's awareness of what goes on in the school
9	Clearly stated curricular goals and objectives
10	Openness in staff-principal communications
11	Effectiveness of supervisor of teachers
	III. School Climate (Students)
12	Positive student attitudes
18	School perceived by all involved as acting as a coherent whole
14	Students feeling that teachers are trying to help them
13	Student permitted to hold positions of responsibility
16	Sense of ownership that students have about the school
	IV. School Climate (Teachers)
15	Communication between staff and students
17	Staff esprit de corps (group cohesiveness)

TABLE 3.3 (Cont'd)

Criterion No.	Form A
	V. Teacher Outcomes
21	Positive attitudes of teachers toward their work in school
19	Teachers' job satisfaction
20	Teachers' commitment to school goals
22	Innovative teaching
	VI. The Teaching Process
23	Most of the school day is spent on actual instruction
24	Staff assumes responsibility for teaching basic skills
25	Positive reinforcement for students' efforts
26	Homework assignment and checked regularly
	VII. The School Plant
27	Spacious classrooms
28	Adequate filing cabinets for all teachers
29	Satisfactory duplicating and typing services available
30	Condition of school building
31	Condition of equipment

Summary

	Category	Criteria
I.	Managerial Policies	1, 2, 3, 4, 5, 6
II.	Managerial Behavior	7, 8, 9, 10, 11
III.	School Climate (Students)	12, 18, 14, 13, 16
IV.	School Climate (Teachers)	15, 17
V.	Teacher Outcomes	21, 19, 20, 22
VI.	The Teaching Process	23, 24, 25, 26
VII.	The School Plant	27, 28, 29, 30, 31

TABLE 3.3 (Cont'd)

Criterion No.	Form B
	I. Managerial Policies
1	Autonomy of teachers - professional freedom
2	Reduced number of students per teacher (small class size)
3	Time for teachers to plan together provided by principal
4	Uniform academic standards throughout school
5	Staff development and inservice
	II. Managerial Behavior
6	Availability of appropriate instructional material
7	Principal's organizational abilities
8	Principal's ability to encourage individual participation
9	Academic progress of students (as a group) checked by principal
10	Fairness and expediency in allocating funds
11	System for monitoring school progress used
	III. School Climate (Students)
12	Positive student attitudes
16	School perceived by all involved as acting as a coherent whole
14	Teachers indicate expectations that all students can succeed
15	Teachers concerned for emotional well-being of students
	IV. School Climate (Teachers)
18	Teachers' satisfaction with principal
13	School spirit - close, warm atmosphere
17	Parental contact and interest
	V. Teacher Outcomes
22	Teachers' goals are compatible with school goals
19	Punctuality of teachers (start and end lessons on time, etc.)

TABLE 3.3 (Cont'd)

Criterion No.	Form B
23	Instructional effectiveness
20	Teacher participation in non-compulsory activities
21	Teachers as role models for students
	VI. The Teaching Process
24	Student-centered teaching methods (sensitive to individual differences)
25	Pupil progress frequently monitored by teachers
26	Class time spent productively on task
	VII. The School Plant
27	Adequacy of the janitorial service
28	Quiet work space for teachers
29	Sufficient number of parking spaces
30	Condition of school building
31	Condition of equipment

Summary

	Category	Criteria
I.	Managerial Policies	1, 2, 3, 4, 5,
II.	Managerial Behavior	6, 7, 8, 9, 10, 11
III.	School Climate (Students)	12, 16, 14, 15
IV.	School Climate (Teachers)	18, 13, 17
V.	Teacher Outcomes	22, 19, 23, 20, 21
VI.	The Teaching Process	24, 25, 26
VII.	The School Plant	27, 28, 29, 30, 31

ALL of the following criteria contribute to school effectiveness. Which criteria contribute the MOST, and which are LESS important ? Please use the full range of numbers from 1-6. CIRCLE your answer. To what degree are these criteria actually performed in your school ? Indicate the degree by CIRCLING one number in the PERFORMANCE column.	Low Degree	PREREQUISITE FOR EFFECTIVENESS	High Degree (ESSENTIAL)	Low Degree	PERFORMANCE	High Degree	OFFICE USE ONLY
1. Appropriate degree of decentralization of decision-making	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
2. Provision for contact and consultation with professional colleagues	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
3. Principal's involvement in coordination of instructional programs	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
4. High norms and academic standards of school	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
5. Uniform standards of discipline throughout the school	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
6. Availability of financial resources	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
7. Principal emphasizes achievement to students	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
8. Principal's awareness of what goes on in the school	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
9. Clearly stated curricular goals and objectives	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
10. Openness in staff-principal communications	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
11. Effectiveness of supervisor of teachers	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
12. Positive student attitudes	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
13. Students permitted to hold positions of responsibility	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
14. Students feeling that teachers are trying to help them	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
15. Communication between staff and students	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			
16. Sense of ownership that students have about the school	1 . 2 . 3 . 4 . 5 . 6			1 . 2 . 3 . 4 . 5 . 6			

Figure 4 Section B (Pages 2+3) of the Questionnaire, Form A

ALL of the following criteria contribute to school effectiveness. Which criteria contribute the MOST, and which are LESS important ? Please use the full range of numbers from 1-6, CIRCLE your answer. To what degree are these criteria actually performed in your school ? Indicate the degree by CIRCLING one number in the PERFORMANCE column.	PREREQUISITE FOR EFFECTIVENESS (ESSENTIAL) Low Degree ... High Degree	PERFORMANCE Low Degree ... High Degree	OFFICE USE ONLY
17.Staff esprit de corps (group cohesiveness)	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
18.School perceived by all involved as acting as a coherent whole	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
19.Teachers' job satisfaction	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
20.Teachers' commitment to school goals	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
21.Positive attitudes of teachers toward their work in school ...	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
22.Innovative teaching	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
23.Most of the school day is spent on actual instruction	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
24.Staff assumes responsibility for teaching basic skills	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
25.Positive reinforcement for students' efforts	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
26.Homework assigned and checked regularly	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
27.Spacious classrooms.....	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
28.Adequate filing cabinets for all teachers	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
29.Satisfactory duplicating and typing services available	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
30.Good condition of school building	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
31.Good condition of equipment	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	

Figure 4 Section B (Pages 2+3) of the Questionnaire, Form A

ALL of the following criteria contribute to school effectiveness. Which criteria contribute the MOST, and which are LESS important ? Please use the full range of numbers from 1-6. CIRCLE your answer. To what degree are these criteria actually performed in your school ? Indicate the degree by CIRCLING one number in the PERFORMANCE column.	Low Degree PREREQUISITE FOR EFFECTIVENESS High Degree (ESSENTIAL)	Low Degree PERFORMANCE High Degree	OFFICE USE ONLY
1. Autonomy of teachers - professional freedom	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
2. Reduced number of students per teacher (small class size).....	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
3. Time for teachers to plan together provided by principal	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
4. Uniform academic standards throughout the school	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
5. Staff development and inservice	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
6. Availability of appropriate instructional materials	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
7. Principal's organizational abilities	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
8. Principal's ability to encourage individual participation	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
9. Academic progress of students (as a group) checked frequently by principal	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
10. Fairness and expediency in allocating funds	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
11. System for monitoring school progress used	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
12. Positive student attitudes	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
13. School spirit - close, warm atmosphere	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
14. Teachers indicate expectations that all students can succeed..	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
15. Teachers concerned for emotional well-being of students	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
16. School perceived by all involved as acting as a coherent whole	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
17. Parental contact and interest	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	

Figure 4 Section B (Pages 2+3) of the Questionnaire, Form B

ALL of the following criteria contribute to school effectiveness. Which criteria contribute the MOST, and which are LESS important ? Please use the full range of numbers from 1-6. CIRCLE your answer. To what degree are these criteria actually performed in your school ? Indicate the degree by CIRCLING one number in the PERFORMANCE column.	PREREQUISITE FOR EFFECTIVENESS (ESSENTIAL) Low Degree — High Degree	PERFORMANCE Low Degree — High Degree	OFFICE USE ONLY
18.Teachers' satisfaction with principal	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
19.Punctuality of teachers (start & end lessons on time, etc.)....	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
20.Teacher participation in non-compulsory activities	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
21.Teachers as role models for students	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
22.Teachers' goals are compatible with school goals	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
23.Instructional effectiveness	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
24.Student-centered teaching methods (sensitive to individual differences)	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
25.Pupil progress frequently monitored by teachers	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
26.Class time spent productively on task	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
27.Adequacy of the janitorial service	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
28.Quiet work space for teachers	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
29.Sufficient number of parking spaces and plug-ins	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
30.Pleasant staff room facilities	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	
31.Good condition of school grounds	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	

Figure 4 Section B (Pages 2+3) of the Questionnaire, Form B

SECTION C

1. Out of the criteria listed on the 2 previous pages, select ONE that you feel is MOST important, from EACH group.

Group 1 (criteria 1-6) ....._____

Group 2 (criteria 7-11) ....._____

Group 3 (criteria 12-16) ....._____

Group 4 (criteria 17-21) ....._____

Group 5 (criteria 22-26) ....._____

Group 6 (criteria 27-31) ....._____

2. Do you actually use the criteria above to gauge the effectiveness of your own school? YES_____ NO_____

3. To what extent do you think schools are improvable? NOT AT ALL___ SOMEWHAT___ TO A CONSIDERABLE EXTENT_____

4. WHICH ITEMS HAVE THE MOST IMPACT ON SCHOOL IMPROVEMENT ?

Rank the items from 11 (highest) to 1 (lowest); you may use the same number more than once if neceaasry :

a) STRUCTURE OF THE SCHOOL ORGANIZATION (job description - who does what when).....___

b) MANAGERIAL POLICIES (rules and policies within the school).....___

c) MANAGERIAL BEHAVIOR (principal's actions as perceived by the rest of the school).....___

d) TEACHER CHARACTERISTICS (personal traits, aspirations, attitudes).....___

e) SCHOOL CLIMATE (as perceived by students).....___

f) SCHOOL CLIMATE (as perceived by teachers).....___

g) TEACHER OUTCOMES (how teachers act and perform due to their feelings about, and reactions to the school)....___

h) THE TEACHING PROCESS (choice of teaching methods and instructional materials).....___

i) THE PHYSICAL ASPECTS OF THE SCHOOL PLANT .....___

j) DECLINE IN ENROLMENTS .....___

k) STUDENTS' BACKGROUND & ITS INFLUENCE ON THEM (family, socio-economic, educational level of parents, etc.)...___

Figure 5 Section C (Page 4) of the Questionnaire , Form A

SECTION C

1. Out of the criteria listed on the 2 previous pages, select ONE that you feel is MOST important, from EACH group.

Group 1 (criteria 1-6) ....._____

Group 2 (criteria 7-11) ....._____

Group 3 (criteria 12-17) ....._____

Group 4 (criteria 18-22) ....._____

Group 5 (criteria 23-26) ....._____

Group 6 (criteria 27-31) ....._____

2. Do you actually use the criteria above to gauge the effectiveness of your own school? YES_____ NO_____

3. To what extent do you think schools are improvable? NOT AT ALL____ SOMEWHAT____ TO A CONSIDERABLE EXTENT_____

4. WHICH ITEMS HAVE THE MOST IMPACT ON SCHOOL IMPROVEMENT ?

Rank the items from 11 (highest) to 1 (lowest); you may use the same number more than once if necessary :

a) STRUCTURE OF THE SCHOOL ORGANIZATION (job description - who does what when).....____

b) MANAGERIAL POLICIES (rules and policies within the school).....____

c) MANAGERIAL BEHAVIOR (principal's actions as perceived by the rest of the school).....____

d) TEACHER CHARACTERISTICS (personal traits, aspirations, attitudes).....____

e) SCHOOL CLIMATE (as perceived by students).....____

f) SCHOOL CLIMATE (as perceived by teachers).....____

g) TEACHER OUTCOMES (how teachers act and perform due to their feelings about, and reactions to the school)....____

h) THE TEACHING PROCESS (choice of teaching methods and instructional materials).....____

i) THE PHYSICAL ASPECTS OF THE SCHOOL PLANT .....____

j) DECLINE IN ENROLMENTS .....____

k) STUDENTS' BACKGROUND & ITS INFLUENCE ON THEM (family, socio-economic, educational level of parents, etc.)...____

Figure 5 Section C (Page 4) of the Questionnaire , Form B

Selection of Subjects

Personal and telephone contacts with the superintendents or appropriate Central Office personnel were made by the researcher throughout April, 1983. Using a type of quota sampling procedure, school jurisdictions representing the categories subsumed in problem 1 (namely district, division, county, elementary, junior high school, high school, urban, and rural), were selected by the researcher. The following school jurisdictions agreed to participate in the study: 5 public school districts, 2 separate school districts, 3 counties, and 2 divisions. This selection satisfied the requirements for the following categories: jurisdiction type, public and separate, urban, and rural.

In all cases except for two large urban districts, the full complement of principals was included in the study. By doing so, the requirement for the remaining categories was fulfilled, namely grade level of the school, the education and the gender of the principal. The selection of the principals in the two large districts was made by the Central Office personnel, with view to the school and principal categories sought by the study. This action on the part of the Central Office personnel is not unusual in view of the fact that the schools in larged urban centers too often become the target populations of studies. The rationale for selection in the two cases was to protect from overburden those schools that were already involved in studies or other activities. In total, 200 principals received the questionnaire.

The Data Collection

With exception of 3 districts, the dispersal and collection of the questionnaire was performed by the Central Office courier system, in keeping with the preferences indicated by the superintendents. The completed questionnaires, in the provided envelopes, were collected at Central Office and either mailed back to the researcher in a large, self-addressed, stamped envelope, or were picked up by the researcher. Questionnaires from the three districts mentioned above were mailed back by the principals, in self-addressed, stamped envelopes provided by the researcher.

Due to the time constraints, follow-up contacts were made by telephone. Again, in most cases, the superintendents preferred to perform this function, usually during meetings. In cases where permission was given, the researcher contacted the principals by telephone. The cut-off date was set at June 15, 1983. In total, 145 questionnaires were returned. One was not usable, leaving the adjusted return rate at 72%. Out of the usable forms, 132 were usable for all the analytical steps including factor analysis.

The Analysis Procedure

Problem 1 Demographic Effects: Frequency and percent distribution was used to describe the demographic characteristics of the respondents. Content which provided an "Other" category and required an explanation by the respondent. Content analysis was also planned for comments, which were requested via a personal note on the form letter. Aside from one request for the results of this study, no comments relative to additional criteria were submitted.

Problem 2 Major Effectiveness Indicators: Frequency analysis of the criterion ranking was performed in order to get an overall ranking of the criteria. Factor analysis of the Prerequisite items in section B was used in order to determine the categories which were formed as a result of the principals' responses.

Problem 3 School Performance Assessment: Percent analysis was done on the performance rating of the 31 given criteria. This was followed by a T-test comparing the ratings in the Prerequisite and Performance columns.

Problem 4 Conceptual Framework: The ranking of the components was subjected to a frequency analysis which yielded a mean value for each of the 4 components. The means were then ranked, to yield a common rank order for each of the two groups of respondents.

Problem 5 Survey Instrument: Cronbach's Alpha was used to check the reliability of both forms of the questionnaire. A T-test was performed on the component ranking in section C of both forms of the questionnaire. The two forms were then compared on the factor analysis and criterion ranking results.

Summary

The design of this exploratory descriptive study was that of a cross-sectional survey, using a questionnaire designed on the basis of a conceptual framework adopted from Steers (1977), and on effectiveness criteria collected from literature. Two forms of the questionnaire had to be produced, due to the large number of criteria intended for testing. Aside from the different lists of criteria, the questionnaires were identical in every other respect, each consisting of three sections: (A) Demographic Information, (B) Criterion Rating, and (C) Ranking of Criteria and Areas of Impact on School Improvements. Four types of data were sought from the two groups of principals: demographic information, rating and ranking of the criteria provided, self-reported of school performance on the provided criteria, and evaluation of the components of the conceptual framework.

The questionnaires have been subjected to several pilot runs before their finalization. The subjects were selected by a quota sampling procedure. The questionnaires were distributed and collected with the approval and cooperation of the school jurisdictions involved in the study. A total of 200 principals received the questionnaire. The return rate was 72%.

Data analysis included the use of frequency distribution, T-tests, F-tests, factor analysis, Cattell's Scree Test, and content analysis.

CHAPTER IV

ANALYSIS OF FINDINGS

The analysis of data, the results, and subsequent discussion are presented in this chapter, followed by a summary. The chapter is organized in the following manner: form A and B of the questionnaire are treated separately, starting with form A, followed by form B, and concluding with comparisons of answers between form A respondents and form B respondents, where such a comparison is appropriate. The treatment of both forms consists of addressing each of the 5 research problems and the attendent questions in the order in which they appear below.

The problems as stated in Chapter I were:

1. Do demographic differences affect the responses of the principals?
2. Which criteria do principals in Alberta consider to be major indicators of school effectiveness?
3. How do principals assess their schools' performance on the above criteria?
4. How do principals evaluate the components of the conceptual framework in terms of their impact on school effectiveness?
5. Is the survey instrument valid and reliable?

Analysis of Form A

Form A - Problem 1: Demographic Effects on Perceptions of Principals

Problem 1 was stated as follows:

Do demographic differences affect the responses of the principals?

The questions arising out of the problem 1 were:

Q.1-1: Will the responses of principals be affected by the type of school jurisdictions in which they work?

Q.1-2: Will the responses of principals differ depending on whether they work in a public or separate school system?

Q.1-3: Will the responses of principals from urban areas differ from those working in non-urban communities?

Q.1-4: Will the grade level of the school (elementary, junior high school, high school) affect the responses of the principals?

Q.1-5: Will the responses of the principals holding a Bachelor of Education degree differ from those having additional education?

Q.1-6: Will the responses of male principals differ from those of female principals?

In order to address this problem, a frequency summary of answers to section A will be presented, followed by the treatment of questions 1-1 to 1-6. A brief discussion and a concluding summary will close the analysis of problem 1.

Summary of Demographic Characteristics of Respondents

Frequency distribution of responses to questions regarding the type of school jurisdictions, the type of system, size of the community, grade levels in the school, type of education, and gender, appears in Table 4.1. The major observations were as follows:

1. The majority of respondents were from public school districts.
2. The proportion of urban and non-urban principals was almost equal.
3. Largest percentage of principals were from elementary schools, the second largest percentage were from a combination of junior high schools and other grades, and the third highest percentage was registered under the "Other" category. Content analysis revealed that schools in this category contained Early Childhood Services or various forms of Special Education in addition to the regular grades.
4. With one exception, the principals reported their level of education to be Bachelor of Education or higher. Principals with a Masters degree represented the largest percentage.

FORM A - TABLE 4.1

Form A, Section A: Demographic Characteristics.
Frequency of responses about demographic characteristics.
N = 81

Demographic Characteristics		Frequency No.	Pct.
	Jurisdiction		
1.	District	42	51.9
2.	Division	12	14.8
3.	County	27	33.3
	Type of System		
1.	Public	58	72.5
2.	Catholic Separate	14	17.5
3.	Protestant Separate	6	7.5
4.	Other	2	2.5
5.	Missing	1	-
	Size of Community		
1.	Large City (over 50,000)	30	37.0
2.	City	9	11.1
3.	Town	22	27.2
4.	Village	20	24.7
	Grade Levels of School		
1.	Elementary School	30	37.0
2.	Elementary-Junior High School	16	19.8
3.	Junior High School	7	8.6
4.	Junior High-High School	2	2.5
5.	High School	9	11.1
6.	Other	17	21.0
	Highest Level of Education		
1.	High School	-	-
2.	1 year of University or equivalent	1	1.2
3.	2 years of University or equivalent	-	-
4.	3 years of University or equivalent	-	-
5.	Bachelor of Education	12	14.8
6.	Bachelor and Teaching Diploma	11	13.6
7.	2 or more Bachelors	13	16.0
8.	Masters degree	35	43.2
9.	2 Masters degrees	1	1.2
10.	Doctorate	2	2.5
11.	Other	6	7.4
	Gender		
1.	Female	9	11.1
2.	Male	72	88.9

5. The majority of the principals were male, the female component making up little more than one-tenth of the total group.
6. Since this questionnaire was sent to principals only, the first question from the questionnaire became redundant at this time, and hence was not included in the above description.

Organization of Data

Since section A of the questionnaire generates data of a higher level of detail than is needed for this particular study, some categories were simplified in order to answer clearly the questions associated with problem 1. The following simplifications were made:

1. For the comparison of answers of principals from the public and separate systems, the "Catholic Separate" and "Protestant Separate" categories were collapsed into a general "Separate" category. For the purpose of question 1-2, only the answers from the "Public" category and the new "Separate" category were used.
2. For question 1-3, the categories "Large City" and "City" were collapsed into a new category named "Urban". The categories "Town" and "Village" were collapsed into a new category named "Rural". The answers from the members of the two new categories were then compared.
3. Since question 1-4 seeks differences between the three levels - elementary, junior high school and high school, only answers of principals from these three categories were used for this question, leaving out the mixed level categories.
4. Since, with one exception, all the principals held at least a Bachelor of Education, two categories were used to answer question 1-5: the "Bachelor of Education" as indicated by principals, and "Bachelor Plus" which represents the amalgamation of all the categories above "Bachelor of Education". Content analysis revealed that the "Other" category in every case indicated some education above the level of Bachelor of Education.
5. The answers of the total group of principals to section B of the questionnaire are presented in terms of absolute frequencies and percent frequencies, in Table 4.2.

FORM A - TABLE 4.2

Frequency Summary of Responses: Absolute Frequencies

FORM A

	PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
	o Low 1	2	3	4	5	6 High (Essential) o	1 Low o	2	3	4	5	6 High o
1. Appropriate degree of decentralization of decision-making.	1	-	5	18	44	12	-	2	9	24	40	5
2. Provision for contact and consultation with professional colleagues.	-	-	5	12	39	25	1	4	9	21	30	14
3. Principal's involvement in coordination of programs.	-	-	6	12	36	27	-	2	9	20	35	13
4. High norms and academic standards of school.	-	1	2	20	34	23	-	1	3	35	34	7
5. Uniform standards of discipline throughout the school.	1	-	4	10	30	36	-	2	5	31	29	14
6. Availability of financial resources.	-	-	14	24	24	19	-	6	22	34	14	5
7. Principal emphasizes achievement to students.	-	2	4	18	37	20	-	2	10	33	26	10
8. Principal's awareness of what goes on in the school.	-	-	-	4	21	56	1	-	1	19	29	31
9. Clearly stated curricular goals and objectives.	-	-	3	8	30	38	-	-	9	24	35	10
10. Openness in staff-principal communications.	-	-	-	6	17	58	-	-	1	12	34	34

FORM A - TABLE 4.2 Cont'd

Frequency Summary of Responses: Absolute Frequencies

	FORM A												
		PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
		Low 1	2	3	4	5	High (Essential) 6	Low 1	2	3	4	5	High 6
11.	Effectiveness of supervisor of teachers.	-	1	7	14	31	26	2	3	9	40	20	5
12.	Positive student attitudes.	-	-	1	4	30	46	-	1	5	24	37	13
13.	Students permitted to hold positions of responsibility.	1	3	10	26	27	13	3	4	13	38	17	4
14.	Students feeling that teachers are trying to help them.	-	-	2	6	15	58	-	1	3	20	42	15
15.	Communication between staff and students.	-	-	-	6	28	47	-	-	2	19	51	8
16.	Sense of ownership that students have about the school.	-	-	4	11	26	40	-	3	10	29	30	8
17.	Staff esprit de corps (group cohesiveness).	-	-	2	12	26	41	-	-	5	25	35	16
18.	School perceived by all involved as acting as a coherent whole.	-	-	2	15	30	34	-	-	7	27	34	13
19.	Teachers' job satisfaction.	-	-	-	5	27	49	-	1	3	21	42	14
20.	Teachers' commitment to school goals.	-	-	-	8	20	52	-	-	5	24	42	9
21.	Positive attitudes of teachers toward their work in school.	-	-	-	4	22	55	-	-	-	16	47	16
22.	Innovative teaching.	-	1	6	35	24	14	-	2	13	39	23	3

FORM A - TABLE 4.2 Cont'd

Frequency Summary of Responses: Absolute Frequencies

	FORM A											
	PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
	Low 1	2	3	4	5	High (Essential) 6	Low 1	2	3	4	5	High 6
23. Most of the school day is spent on actual instruction.	-	3	4	22	35	16	-	1	7	27	37	8
24. Staff assumes responsibility for teaching basic skills.	-	-	-	7	26	47	-	-	3	17	31	29
25. Positive reinforcement for students' efforts.	-	-	1	5	29	46	-	-	7	20	44	9
26. Homework assigned and checked regularly.	3	2	9	19	21	26	3	4	5	34	28	6
27. Spacious classrooms.	-	9	15	28	18	11	2	7	16	28	18	10
28. Adequate filing cabinets for all teachers.	11	9	16	28	10	7	5	4	13	19	20	19
29. Satisfactory duplicating and typing services available.	1	6	9	22	26	17	-	2	7	12	30	30
30. Good condition of school building.	-	4	11	20	30	16	-	3	10	15	31	22
31. Good condition of equipment.	-	1	5	20	41	14	-	1	4	24	33	19

FORM A - TABLE 4.2

Frequency Summary of Responses: Percentage Frequencies

	FORM A											
	PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
	o Low 1	2	3	4	5	o High (Essential) 6	o Low 1	2	3	4	5	o High 6
1. Appropriate degree of decentralization of decision-making.	1.2	-	6.3	22.5	55.0	15.0	-	2.5	11.2	30.0	50.0	6.3
2. Provision for contact and consultation with professional colleagues.	-	-	5.0	15.0	48.7	31.3	1.3	5.1	11.4	26.6	38.0	17.7
3. Principal's involvement in coordination of programs.	-	-	7.4	14.8	44.4	33.3	-	2.5	11.4	25.3	44.3	16.5
4. High norms and academic standards of school.	-	1.2	2.5	25.0	42.5	28.7	-	1.2	3.7	43.8	42.5	8.7
5. Uniform standards of discipline throughout the school.	1.2	-	4.9	12.3	37.0	44.4	-	2.5	6.2	38.3	35.8	17.3
6. Availability of financial resources.	-	-	17.3	29.6	29.6	23.5	-	7.4	27.2	42.0	17.3	6.2
7. Principal emphasizes achievement to students.	-	2.5	4.9	22.2	45.7	24.7	-	2.5	12.3	40.7	32.1	12.3
8. Principal's awareness of what goes on in the school.	-	-	-	4.9	25.9	69.1	1.2	-	1.2	23.5	35.8	38.3
9. Clearly stated curricular goals and objectives.	-	-	3.8	10.1	38.0	48.1	-	-	11.5	30.8	44.9	12.8
10. Openness in staff-principal communications.	-	-	-	7.4	21.0	71.6	-	-	1.2	14.8	42.0	42.0

FORM A - TABLE 4.2 Cont'd

Frequency Summary of Responses: Percentage Frequencies

FORM A

		PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
		o Low					o High (Essential)	o Low					o High
		1	2	3	4	5	6	1	2	3	4	5	6
11.	Effectiveness of supervisor of teachers.	-	1.3	8.9	17.7	39.2	32.9	-	1.2	6.3	30.0	46.2	16.2
12.	Positive student attitudes.	-	-	1.2	4.9	37.0	56.8	-	1.2	6.3	30.0	46.2	16.2
13.	Students permitted to hold positions of responsibility.	1.2	3.7	12.5	32.5	33.7	16.2	3.8	5.1	16.5	48.1	21.5	5.1
14.	Students feeling that teachers are trying to help them.	-	-	2.5	7.4	18.5	71.6	-	1.2	3.7	24.7	51.9	18.5
15.	Communication between staff and students.	-	-	-	7.4	34.6	58.0	-	-	2.5	23.7	63.7	10.0
16.	Sense of ownership that students have about the school.	-	-	4.9	13.6	32.1	49.4	-	3.7	12.5	36.2	37.5	10.0
17.	Staff esprit de corps (group cohesiveness).	-	-	2.5	14.8	32.1	50.6	-	-	6.2	30.9	43.2	19.8
18.	School perceived by all involved as acting as a coherent whole.	-	-	2.5	18.5	37.0	42.0	-	-	8.6	33.3	42.0	16.0
19.	Teachers' job satisfaction.	-	-	-	6.2	33.3	60.5	-	1.2	3.7	25.9	51.9	17.3
20.	Teachers' commitment to school goals.	-	-	-	10.0	25.0	65.0	-	-	6.3	30.0	52.5	11.2
21.	Positive attitudes of teachers toward their work in school.	-	-	-	4.9	27.2	67.9	-	-	-	20.3	59.5	20.3
22.	Innovative teaching.	-	1.2	7.5	43.8	30.0	17.5	-	2.5	16.2	48.7	28.7	3.7

FORM A - TABLE 4.2 Cont'd

Frequency Summary of Responses: Percentage Frequencies

	FORM A											
	PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
	1 Low	2	3	4	5	6 High (Essential)	1 Low	2	3	4	5	6 High
23. Most of the school day is spent on actual instruction.	-	3.7	5.0	27.5	43.8	20.0	-	1.2	8.7	33.7	46.2	10.0
24. Staff assumes responsibility for teaching basic skills.	-	-	-	8.7	32.5	58.7	-	-	3.7	21.2	38.7	36.2
25. Positive reinforcement for students' efforts.	-	-	1.2	6.2	35.8	56.8	-	-	8.7	25.0	55.0	11.2
26. Homework assigned and checked regularly.	3.7	2.5	11.2	23.7	26.2	32.5	3.7	5.0	6.3	42.5	35.0	7.5
27. Spacious classrooms.	-	11.1	18.5	34.6	22.2	13.6	2.5	8.6	19.8	34.6	22.2	12.3
28. Adequate filing cabinets for all teachers.	13.6	11.1	19.8	34.6	12.3	8.6	6.3	5.0	16.2	23.7	25.0	23.7
29. Satisfactory duplicating and typing services available.	1.2	7.4	11.1	27.2	32.1	21.0	-	2.5	8.6	14.8	37.0	37.0
30. Good condition of school building.	-	4.9	13.6	24.7	37.0	19.8	-	3.7	12.3	18.5	38.3	27.2
31. Good condition of equipment.	-	1.2	6.2	24.7	50.6	17.3	-	1.2	4.9	29.6	40.7	23.5

Question A1-1: Type of Jurisdiction

Will the responses of the principals being affected by the type of school jurisdiction in which they work?

Findings

F-test with Scheffe procedure was performed on the three categories - District, Division, and County. A simplified summary of the findings is presented in Table 4.3. The complete F-test documentation appears in the Appendix. The major findings were as follows:

1. Answers were significantly different for 15% of the criteria, with 3 additional criteria having differences very close to alpha of 0.05.
2. The criteria where the answers from the Divisions differed signficantly were: 6, 10, 12, 19, 23, 27 and 30. Answers from the Counties differed on criterion 8. In most cases the differences appeared in the Prerequisite column.
3. In general, the answers of principals from the Division category differed from either or both of the categories District and County.

Comments on Findings

In most cases where the answers from the Divisions were rated higher than the other jurisdiction types, the criteria in question could be described as climate related. The criteria centered on staff-principal communications, positive teacher and student attitudes, and availability of resources, both physical and financial.

Summary

The answers from the Divisions differed from the rest in 15% of the responses. In almost all the cases the differences occurred in the Prerequisite column, and the criteria involved were climate related.

FORM A - TABLE 4.3

District/Division/County
F-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	Significant Groups	F Value	Probability
6	X		1 + 2, 1 + 3	4.952	0.0094
8	X		3 + 2, 3 + 1	4.951	0.0095
10		X	1 + 2, 3 + 2	5.462	0.0060
12	X		1 + 2, 3 + 2	4.504	0.0141
19	X		3 + 2, 1 + 2	6.254	0.0030
23	X		1 + 2, 3 + 2	12.606	0.0000
27	X		1 + 2	4.462	0.0146
30		X	3 + 2, 1 + 2	7.936	0.0007
Close to Significant					
10	X		1 + 2, 3 + 2	3.028	0.0541
11	X		1 + 2	3.104	0.0506
23		X	3 + 2	2.990	0.0561

Group 1 = District
Group 2 = Division
Group 3 = County
Probability = 0.05

Question A1-2: Public or Separate

Will the responses of principals differ, depending on whether they work in a public or separate system?

Findings

T-test was performed on the answers from groups previously described as "Public" and "Separate". A simplified summary of the findings presented in Table 4.4. The complete T-test documentation appears in Appendix D. The major findings were as follows:

1. There was only one criterion, on which answers differed significantly at alpha of 0.05. This was criterion 26, which was rated higher by the separate systems principals in both the Prerequisite and the Performance columns.
2. Answers to criterion 18 were not significant at alpha of 0.05, but the difference was close enough to merit mentioning, at probability level of 0.061. The public system principal rated this criterion higher in the Prerequisite column.

Comments on Findings

The separate system principals placed a significantly higher emphasis on both the importance and performance of assigning and checking homework regularly. The public system principals indicate that it is especially important that the school be perceived by all involved as acting as a coherent whole. In terms of performance on this criterion, it is interesting to note that the rating for public systems (4.6724) is only slightly higher than the rating for separate school (4.6087).

Summary

In general, the answers of principals from public and separate systems are not affected by this demographic characteristic. Significant differences make up slightly more than 1%. These differences are due to significantly higher ratings given by the separate system principals in both the Prerequisite and Performance columns on the criterion dealing with the regular assignment and checking of homework.

FORM A - TABLE 4.4

Public/Separate
T-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	T Value	Probability
26	S	S	-2.47/-3.44	0.017/0.001
Close to Significant				
18	P		193	0.061

S = Separate

P = Public

Probability: = 0.05

Question A1-3: Urban and Non-Urban

Will the responses of principals from urban areas differ from those working in non-urban communities?

Findings

T-test was performed on the answers from groups previously described as "Urban" and "Rural". A simplified summary of the findings is presented in Table 4.5. The complete T-test documentation appears in Appendix E. The major findings were as follows:

1. 18% of the criteria were rated significantly higher by the urban groups. The following criteria made up the 18%: 6, 11, 13, 20, 22, 26, 27, 28, and 30.
2. In the majority of the cases, the differences were registered in the Prerequisite column.
3. The urban principals report higher performance in certain criteria dealing with the teaching process, and student and teacher involvement.
4. Criteria dealing with physical and financial resources received a higher rating in the Prerequisite column as reported by the urban principals.

Comments on Findings

Judging by the higher performance rating on criteria 13, 20, and 22, which deal with student and teacher involvement, and innovative teaching, it might be suggested that the approach of the rural schools is more traditional in these aspects. A greater emphasis on accountability in the urban areas can be surmised by the higher Prerequisite rating of criteria 11 and 26, which deal with supervision of teachers and assignment and checking of homework. Urban principals also give greater importance to the availability of financial and physical resources.

Summary

The urban principals scored higher on 18% of the criteria. In general, their schools performed higher on member involvement, and teaching innovation. Accountability and the provision of resources were considered more important by urban than by rural principals.

FORM A - TABLE 4.5

Urban/Rural
T-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	T Value	Probability
6	U		3.95	0.000
11	U		2.21	0.030
13	U	U	2.29/2.01	0.025/0.048
20		U	2.51	0.014
22		U	2.03	0.045
26	U	U	2.44/2.88	0.017/0.005
27	U		3.33	0.001
28	U		2.69	0.009
30	U		3.30	0.002

R = Rural

U = Urban

Probability = 0.05

Question A1-4: Grade Level of School

Will the grade level of the school (elementary, junior high school, high school) affect the responses of the principals?

Findings

F-test was performed on the three groups - "Elementary", "Junior High", and "Senior High" - which were described earlier. A simplified summary of the findings is presented in Table 4.6. The complete F-test documentation appears in Appendix F. The major findings were as follows:

1. Less than 3% of the answers were significantly different.
2. The criteria in question were numbers 7 and 21. In both cases it was the rating in the Performance column that was significantly different.
3. In each case, the significant difference was due to answers from elementary school principals.

Comments on Findings

The two criteria rated higher by the elementary school principals indicate that principals emphasize achievement to students to a greater degree (criterion 7), and that elementary school teachers show to an extent, positive attitudes toward their work in school (criterion 21).

Summary

In general, the grade level of the school has a very little effect on the answers of the principals. The answers differed significantly only in the area of fostering positive attitudes of students and teachers toward their work, which received higher emphasis from elementary school principals.

Question A1-5: Education Level of Principal

Will the responses of the principals holding a Bachelor of Education degree differ from those having additional education?

FORM A - TABLE 4.6

Elementary/Junior High/Senior High
F-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	Significant Groups	F Value	Probability
7		X	3 + 1	4.814	0.0130
21		X	2 + 1	3.318	0.0459

Group 1 = Elementary

Group 2 = Junior High

Group 3 = Senior High

Probability = 0.05

Findings

T-test was performed on the groups "Bachelor" and "Bachelor Plus" which were described earlier. A simplified summary of the findings is presented in Table 4.7. The complete T-test documentation appears in Appendix G. The major findings were as follows:

1. 3% of the answers were significantly different.
2. The criteria that registered a higher score were numbers 9 and 12, with criterion 9 scoring higher in the Prerequisite columns and criterion 12 scoring higher in the Performance column.
3. In each case, the Bachelor group was responsible for the higher score.

Comments on Findings

Criterion 9 refers to "Clearly stated curricular goals and objectives". It is interesting to note that this significant administrative element was given more importance by principals with less education. Criterion 12, "Positive Student Attitudes", was rated higher in the performance category by the Bachelor group.

Summary

Overall, the education level of principals had little effect on the answers given. Where significant differences did occur, the principals with lower education gave higher scores in the area of curriculum planning and student attitudes.

Question A1-6: Male or Female Principal

Will the responses of male principals differ from those of female principals?

Findings

T-test was performed on the "Female" and "Male" group. A simplified summary of the findings is presented in Table 4.8. The complete T-test documentation appears in Appendix H. The major findings were as follows:

FORM A - TABLE 4.7

Bachelor/Bachelor Plus
T-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	T Value	Probability
9	B		2.50	0.020
12		B	2.46	0.025

B = Bachelor

M = More (Bachelor Plus)

Probability = 0.05

FORM A - TABLE 4.8

Female/Male
T-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	T Value	Probability
2	F		3.53	0.003
3	F		2.75	0.019
8	F	F	5.72/5.86	0.000/0.000
11	F		2.68	0.016
12		F	2.40	0.033
16		F	2.27	0.044
17		F	2.93	0.014
18		F	2.99	0.012
21	F		2.22	0.042
Close to Significant				
1		F	2.12	0.054
17	F		2.18	0.052
18	F		2.06	0.058
28	M		-2.12	0.054

F = Female

M = Male

Probability = 0.05

1. Significant differences occurred in 16% of the answers.
2. The criteria for which answers were significantly different at alpha 0.05 were: 2, 3, 8, 11, 21 in the Prerequisite column, and 8, 12, 16, 17, 18 in the Performance column.
3. There were several answers with probabilities so close to the alpha 0.05, that they merit being listed as well. The criteria were: 17, 18, 28 in the Prerequisite column, and 1 in the Performance column.
4. In all cases except one, the female respondents gave the criteria a higher rating. The exception was criterion 28, where the male respondents gave a higher rating.

Comments on Findings

The criteria to which female principals assigned higher importance were leadership oriented, and suggested a well informed supervisory style which places emphasis on climate. The criteria which rated higher were: Provision for contact and consultation with professional colleagues, Principal's awareness of what goes on in the school, Effectiveness of supervisor of teachers', and Positive attitudes of teachers toward their work in school. The criteria which rated close to the significance level in importance were: Staff esprit de corps (group cohesiveness), and School perceived by all involved as acting as a coherent whole. In the performance rating, the answers that registered as significantly higher were related to school climate. The criteria were: Principal's awareness of what goes on in the school, Positive student attitudes, Sense of ownership that students have about the school, Staff esprit de corps (group cohesiveness), and School perceived by all involved as acting as a coherent whole. The criterion which was rated close to the significance level was Appropriate degree of decentralization of decision-making. The only criterion which was rated close to significantly higher by the male principals was Adequate filing cabinets for all teachers.

Summary

In general, the gender of the respondent affected the answers to some degree, as higher rating was reported by females on 16% of the criteria. The females considered supervisory functions and climate, particularly as perceived

by teachers, to be more important than did their male counterparts. In assessing school performance, the females rated the climate related criteria higher than did the males.

Form A - Problem 2: Major Effectiveness Indicators

Problem 2 was stated as follows:

Which criteria do principals in Alberta consider to be major indicators of school effectiveness?

The question arising out of problem 2 was:

Question A2-1: Principals' Criteria vs Framework Criteria

Will the clusters of criteria identified as important by the principals, correspond to the categorization indicated by the conceptual framework?

Problem 2 deals primarily with section B of the questionnaire. In order to answer the problem question, two different analytical methods were employed. A frequency analysis of the criterion ranking was performed in order to get an overall ranking of the criteria. This was followed by factor analysis of the Prerequisite items in section B. The criterion ranking will be described first, followed by the factor analysis.

Criterion Ranking

Question 1 in section C of the questionnaire required the respondents to choose the most important criterion from each group (of 5-6 criteria) given in section B. The frequencies with which each criterion has been chosen have been recorded. All criteria with absolute frequencies of 15 or higher were recorded, and ranked. Table 4.9 shows the high frequency criteria from each of the 6 groups presented in section B.

The summary of the highest ranking criteria in each group is presented in Table 4.10

FORM A - TABLE 4.9

Criterion Ranking Within Groups

Group No.	Criterion No.	Absolute Frequency	Percentage Frequency	Criterion Description
1	3	22	27.5	Principal's involvement in coordination of instructional programs
	4	21	26.2	High norms and academic standards of school
	1	18	22.5	Appropriate degree of decentralization of decision-making
2	10	32	40.0	Openness in staff-principal communications
	9	22	27.5	Clearly stated curricular objectives
	8	18	22.5	Principal's awareness of what goes on in the school
3	14	28	35.0	Students feeling that teachers are trying to help them
	12	26	32.5	Positive student attitudes
	15	17	21.2	Communication between staff and students
4	21	33	41.2	Positive attitudes of teachers toward their work in school
	20	17	21.2	Teachers' commitment to school goals
5	25	43	53.7	Positive reinforcement for students' efforts
	24	21	26.2	Staff assumes responsibility for teaching basic skills
6	29	29	36.2	Satisfactory duplicating and typing services available
	30	25	31.3	Good condition of school building

FORM A - TABLE 4.10

Summary of Criterion Ranking by Groups

Group	Criterion	Description
1	3	Principal's involvement in coordination of instructional programs
2	10	Openness in staff-principal communications
3	14	Students feeling that teachers are trying to help them
4	21	Positive attitudes of teachers toward their work in school
5	25	Positive reinforcement for students' efforts
6	29	Satisfactory duplicating and typing services available

These criteria could be described as conditions which were perceived by the principals to be necessary for the achievement of school effectiveness. This question was included in the design of the study in anticipation of a situation where total frequencies might not show a clear difference between the degree of importance of the criteria. Since the ranking of 31 criteria would be somewhat difficult to operationalize, the method of ranking within 6 groups of 5 criteria was utilized. In order to reduce the constraint imposed on the ranking by the group structure, the criteria were then ranked by the researcher on the basis of frequencies from Table 4.9 only, disregarding the group structure. Table 4.11 shows the criteria ranked according to the frequencies.

This ranking could be described as giving highest priority to student and teacher-perceived climate, followed by school plant factors, the principal's managerial behavior and what could be loosely termed as teacher outcomes.

Factor Analysis

Factor analysis (oblique) was tried with 9, 8, 7, 6, and 5 factors. In selecting the numbers of factors, three criteria were used: (1) eigenvalue must be higher than 1.00; (2) the items should fall into clearly separate groups; and (3) the items should be confirmed by Cattell's Scree Test.

The varimax rotated factor matrix, using 5 factors and employing 13 iterations yielded the most satisfactory results in keeping with the 3 selection criteria.

Groups yielded by the 5 factors are presented in Table 4.12. Cattell's Scree Test curve is shown in Figure 6. There were only 3 criteria that did not fall into one of the above groups: criterion 2 (factor 1), criterion 6 (factor 2), and criterion 9 (factor 4). Criterion 2 deals with professional contacts; criterion 6 is concerned with financial resources; and criterion 9 deals with curricular goals.

The 6 groups defined by factor analysis, have been described by the researcher with the following identifying headings:

GROUP 1: School climate-student related
GROUP 2: Teacher outcomes
GROUP 3: School plant and support services
GROUP 4: Principal's managerial behavior
GROUP 5: School climate-teacher related
GROUP 6: Teaching process

A complete documentation of the factor analysis appears in Appendix I.

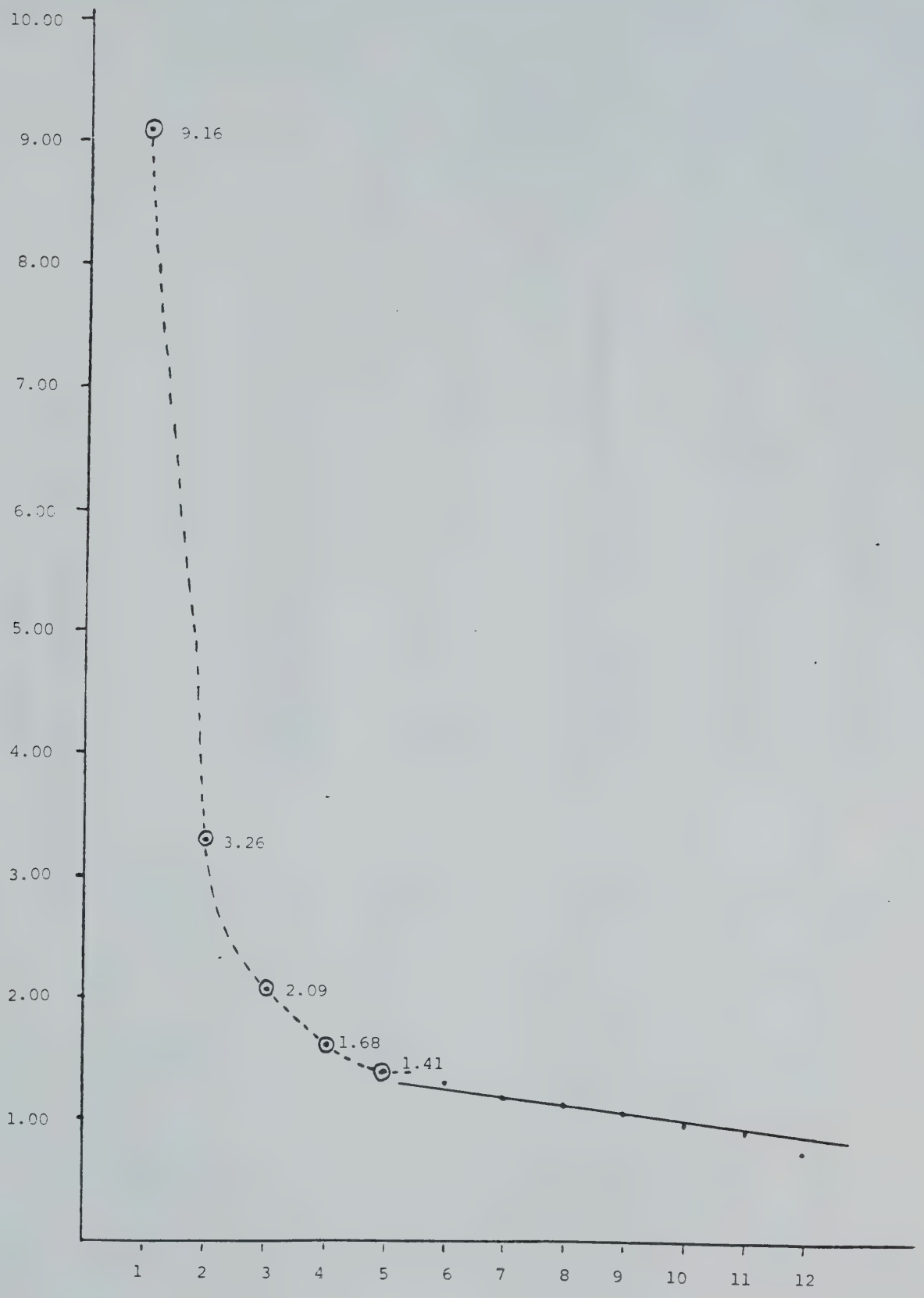
FORM A - TABLE 4.11

Ranking of Criteria as Requested in Question 1,
Section C of Questionnaire, According to Frequency

Rank	Criterion No.	Percentage Frequency	Criterion Description
1*	25	53.1	Positive reinforcement for students' efforts
2*	21	40.7	Positive attitudes of teachers toward their work in school
3*	10	40.0	Openness in staff-principal communications
4*	29	35.8	Satisfactory duplicating and typing services available
5*	14	34.6	Students feeling that teachers are trying to help them
6	12	32.1	Positive student attitudes
7	30	30.9	Good condition of school buildings
8*	3	27.5	Principal's involvement in coordination of instructional programs
8	9	27.5	Clearly stated curricular objectives
9	4	26.2	High norms and academic standards of school
10	24	25.9	Staff assumes responsibility for teaching basic skills
11	8	22.5	Principal's awareness of what goes on in the school
11	1	22.5	Appropriate degree of decentralization of decision-making
12	20	21.0	Teachers' commitments to school goals
12	15	21.0	Communications between staff and students

* denotes criteria that were ranked highest in their group

FIGURE 6



FORM A: CATTELL'S SCREE TEST CURVE - CRITERION RANKING FACTOR ANALYSIS

FORM A - TABLE 4.12

Prerequisite Criteria Groupings Using 5 Factor Analysis

Factor No.	Group No.	Criterion No.	Criterion Description
1	1	12	Positive student attitudes
		13	Students permitted to hold positions of responsibility
		14	Students feeling that teachers are trying to help them
		15	Communication between staff and students
		16	Sense of ownership that students have about the school
1	2	19	Teachers' job satisfaction
		20	Teachers' commitment to school goals
		21	Positive attitudes of teachers toward their work in school
		25	Positive reinforcement for students' efforts
2	3	27	Spacious classrooms
		28	Adequate filing cabinets for all teachers
		29	Satisfactory duplicating and typing services available
		30	Good condition of school building
		31	Good condition of equipment
3	4	8	Principal's awareness of what goes on in the school
		10	Openness in staff-principal communications
		11	Effectiveness of supervisor of teachers
3	5	17	Staff espirit de corps (group cohesiveness)
		18	School perceived by all involved as acting as a coherent whole

FORM A - TABLE 4.12 Cont'd

Prerequisite Criteria Groupings Using 5 Factor Analysis

Factor No.	Group No.	Criterion No.	Criterion Description
5	6	4	High norms and academic standards of school
		7	Principal emphasizes achievement to students
		23	Most of the school day is spent on actual instruction

Comments

The results of the factor analysis have effectively been supported by the criterion ranking, where the criteria judged as most important represents the same categories as do the groups of criteria generated by factor analysis.

It is interesting to note that climate and attitudes, followed by physical working conditions, preceded the principal's managerial behavior in the criterion ranking. While the theoretical framework indicates the key position of the principal in the organizational life of the school, and indicates his influence on school climate, the principals themselves rate what could be considered the outcomes of their behavior as higher. One might speculate as to whether they are aware of the full extent of the relationship between their behavior and school climate.

Summary

Factor analysis (oblique) using 5 factors gave criterion groupings that best fitted the 3 selection criteria described above. Content analysis of the resultant 6 groups of criteria gave rise to the following 6 dimensions of effectiveness as perceived by the principals: School climate-student related, Teacher outcomes, School plant and support services, Principal's managerial behavior, School climate-teacher related, and Teaching process. These dimensions are in agreement with the criterion ranking done by the principals in section C of the questionnaire, as described as Student and teacher-perceived climate, School plant factors, Principal's managerial behavior, and Teacher outcomes.

Form A - Problem 3: School Performance Assessment

Problem 3 was stated as follows:

How do principals assess their school's performance on the above criteria?

Questions arising out of problem 3 were:

Q.3-1: Will the principal's assessment reveal a general pattern of strengths and weaknesses?

Q.3-2: Are there significant differences between the rating of the importance of the criteria and the schools' performance on the criteria?

Question 3-1 will be answered by a percent analysis of the performance rating of the 31 given criteria. Question 3-2 will be answered by a T-test comparing the ratings in the Prerequisite and Performance columns.

Question A3-1: Strengths and Weaknesses

Will the principal's assessment reveal a general pattern of strengths and weaknesses?

The means of the criterion ratings in the Performance column were ranked from highest to lowest, as shown in Table 4.13. The ranked criteria with descriptions are included in Table 4.14.

Comments

The principals indicate that their schools perform highest in the climate related criteria. Managerial behavior rates in about the middle of the performance scale (1-28), so it might be assumed that the principals generally rate their work as adequate. The criteria related to the teaching process are at the bottom end of the performance scale. It would seem that according to the principals, endeavours to improve school effectiveness should start in the classrooms. The principals also indicate a need for more effective supervisors of teachers. The lowest performance rating was assigned to availability of financial resources. Given the present economic situation and the financial forecasts for the next 2 or 3 years, the principals will have to devise betters ways of dealing with these economic realities. It follows then, that another area where improvement is needed is resource management and budgeting.

Summary

The ratings of the criteria in the Performance column have been ranked. Since some criteria received the same rating, the ranking order was from 1 (highest performance) to 28 (lowest performance). It is assumed that the lower

FORM A - TABLE 4.13

Ranking of Means for Responses on Performance of Criteria

Criterion No.	X	Order From Highest to Lowest
1	4.462	20
2	4.481	19
3	4.608	14
4	4.537	18
5	4.593	15
6	3.877	28
7	4.395	21
8	5.074	3
9	4.590	16
10	5.247	1
11	4.114	25
12	4.700	11
13	3.937	27
14	4.827	6
15	4.813	7
16	4.375	22
17	4.765	9
18	4.654	13
19	4.802	8
20	4.688	12
21	5.000	4
22	4.150	24
23	4.550	17
24	5.075	2
25	4.688	12
26	4.225	23
27	4.025	26
28	4.275	22
29	4.975	5
30	4.728	10
31	4.802	8

FORM A - TABLE 4.14

Ranking of School Performance on the Given Criteria

Order Highest To Lowest	Criterion No.	Criterion
1	10	Openness in staff-principal communications
2	24	Staff assumes responsibility for teaching basic skills
3	8	Principal's awareness of what goes on in the school
4	21	Positive attitudes of teachers toward their work in school
5	29	Satisfactory duplicating and typing services available
6	14	Students feeling that teachers are trying to help them
7	15	Communications between staff and students
8	19	Teachers' job satisfaction
8	31	Good condition of equipment
9	17	Staff esprit de corps (group cohesiveness)
10	30	Good condition of school building
11	12	Positive student attitudes
12	20	Teachers' commitment to school goals
12	25	Positive reinforcement for students' efforts
13	18	School perceived by all involved as acting as a coherent whole
14	3	Principal's involvement in coordination of instructional programs
15	5	Uniform standards of discipline throughout the school
16	9	Clearly stated curricular goals and objectives

FORM A - TABLE 4.14 Cont'd

Ranking of School Performance on the Given Criteria

Order Highest To Lowest	Criterion No.	Criterion
17	23	Most of the school day is spent on actual instruction
18	4	High norms and academic standards of school
19	2	Provision for contact and consultation with professional colleagues
20	1	Appropriate degree of decentralization of decision-making
21	7	Principal emphasizes achievement to students
22	16	Sense of ownership that students have about the school
22	28	Adequate filing cabinets for all teachers
23	26	Homework assigned and checked regularly
24	22	Innovative teaching
25	11	Effectiveness of supervisor of teachers
26	27	Spacious classrooms
27	13	Students permitted to hold positions of responsibility
28	6	Availability of financial resources

the performance rating is, the higher the need for improvement. Climate related criteria scored the highest, while criteria relating to the teaching process were at the bottom of the scale. The lowest rated criterion deals with financial resources.

Question A3-2: Importance vs Performance of Criteria

Are there significant differences between the rating of the importance of the criteria and the schools' performance on the criteria?

T-test was performed on the ratings of the Importance and Performance criteria. Significant differences in rating were noted in all but 4 cases. Table 4.15 shows the criteria on which rating was significantly different. The column with the higher rating is indicated by a check mark. Full report of T-test is included in Appendix R.

Comments

Table 4.15 indicates that the majority of the criteria were rated significantly higher in the Prerequisite column. Interpreting this the other way, the performance on the criteria was in most cases lower than their importance would warrant.

Summary

Comparison of the ratings of importance as opposed to performance of the criteria indicates that most criteria received a significantly lower rating on performance. Of the 4 criteria on which rating did not differ significantly, 3 were school plant related.

Form A - Problem 4: Conceptual Framework and School Effectiveness

Problem 4 was stated as follows:

How do principals evaluate the components of the conceptual framework in terms of their impact on school effectiveness?

The question arising out of problem 4 was:

FORM A - TABLE 4.15

T-Test of Criterion Rating: Significant Differences Between "Prerequisite" and "Performance"

Criterion No.	Prerequisite	Performance	Criterion Description
1	X		Appropriate degree of decentralization of decision-making
2	X		Provision for contact and consultation with professional colleagues
3	X		Principal's involvement in coordination of instructional programs
4	X		High norms and academic standards of school
5	X		Uniform standards of discipline throughout the school
6	X		Availability of financial resources
7	X		Principal emphasizes achievement to students
8	X		Principals awareness of what goes on in the school
9	X		Clearly stated curricular goals and objectives
10	X		Openness in staff-principal communications
11	X		Effectiveness of supervisor of teachers
12	X		Positive student attitudes
13	X		Students permitted to hold positions of responsibility
14	X		Students feeling that teachers are trying to help them
15	X		Communications between staff and students
16	X		Sense of ownership that student have about the school
17	X		Staff esprit de corps (group cohesiveness)
18	X		School perceived by all involved as acting as a coherent whole
19	X		Teachers' job satisfaction

FORM A - TABLE 4.15 Cont'd

T-Test of Criterion Rating: Significant Differences
Between "Prerequisite" and "Performance"

Criterion No.	Prerequisite	Performance	Criterion Description
20	X		School perceived by all involved as acting as a coherent whole
21	X		Teachers' commitment to school goals
22	X		Innovative teaching
24	X		Staff assumes responsibility for teaching basic skills
25	X		Positive reinforcement for students' efforts
26	X		Homework assigned and checked regularly
28		X	Adequate filing cabinets for all teachers
29		X	Satisfactory duplicating and typing services available
Criterion Rating: No Signification Differences			
23			Most of the school day is spent on actual instruction
27			Spacious classrooms
30			Good condition of school building
31			Good condition of equipment

P 0.05 Significantly higher rating is marked with X.

Question A4-1: Key Factors in the Framework

Are the components equivalent in significance, or do some components represent key factors in the framework of the school organization?

In section C of the questionnaire, the last question presented 11 items, 9 of which are, in fact, components of the conceptual framework. This question complements the criterion rating in the Prerequisite column, which was presented in problem 2. The component ranking is, in essence, problem 2 judged on a more abstract level.

To analyze the component ranking, means of the rating frequencies were calculated for this group of principals. The means were then ranked, in order to determine how the groups of principals judged these components in terms of importance. Table 4.16 shows the components arranged from most important to least important.

Comments

As in all previous cases, items related to school climate head the list. It is interesting to note, that the first two items are teacher related. Referring back to the question in section C which elicited these responses - "Which items have the most impact on school improvement?" - it would seem that the principals see attitude and performance changes on the part of the teachers as key elements in school improvement. To put this in the context of effectiveness, positive attitudes of teachers lead to better performance, which, leads to positive student attitudes (as reflected by the third item on the list). While data gathered through the survey method cannot be used to establish cause and effect explanations, it can be concluded that the principals perceive a relationship between the three items and school effectiveness. Although the theoretical framework, as well as current literature, indicate the key role of the principal in driving the relationship between school climate, performance, and effectiveness, the principals themselves place "Managerial Behavior" below the climate and performance items. The last two items give the principals' answers to two "popular" explanations for school ineffectiveness: Students' background and its influence on them (popularized after the Coleman Report), and Decline in enrollments (currently much discussed in schools because of its relationship to decreased funding and staff cuts).

FORM A - TABLE 4.16

Framework Component Ranking

Order	Component Number	$\bar{X}$	Component Description
1	f	7.215	School climate (as perceived by teachers)
2	g	7.165	Teachers outcomes (how teachers act and perform due to their feelings about, and reactions to the school)
3	e	7.076	School climate (as perceived by students)
4	c	6.911	Managerial behavior (principal's actions as perceived by the rest of the school)
5	h	6.810	The teaching process (choice of teaching methods and instructional materials)
6	d	6.519	Teacher characteristics (personal traits, aspirations, attitudes)
7	b	6.443	Managerial policies (rules and policies within the school)
8	a	6.418	Structure of the school organization (job description - who does what when)
9	i	5.418	The physical aspects of the school plant
10	k	5.405	Students' background and its influence on them (family, socio-economic, educational level of parents, etc.)
11	j	5.000	Decline in enrollments

Summary

Question 4 in section C of the questionnaire involved the ranking of the components of the theoretical framework, in terms of their impact on school improvement. The top 3 items were: School climate (teacher related), Teacher outcomes, and School climate (student related). The last two items were: Students' background and its influence on them, and Decline in enrollments.

Form A - Problem 5: Assessment of Survey Instrument

Problem 5 was stated as follows:

Is the survey valid and reliable?

Questions arising out of problem 5 were:

Q.5.1: Are both forms of the questionnaire valid and reliable to a satisfactory degree?

Q.5.2: Are both forms of the questionnaire equivalent, so that one could be used as a pre-test and the other as a post-test in a school effectiveness program?

Question 5-1 will be answered by applying Cronbach's Alpha to check the reliability of form A; T-test was performed on the component ranking in section C of both forms of the questionnaire. Question 5-2 will involve comparisons between the two forms of the questionnaire on the factor analysis and criterion ranking. Because extensive use of results from form B is necessary, question 5-2 will be dealt with after the report on form B is completed. Analysis of question 5-2 will hence apply to both questionnaires.

Question A5-1: Validity and Reliability

Are both forms of the questionnaire valid and reliable to a satisfactory degree?

Cronbach's Alpha

The reliability coefficient for section B and C of form A (ie., the whole questionnaire, with the exclusion of section A which deals with demographic data) is 0.81344.

T-test on Last Question of Both Forms - Framework Component Ranking

T-test on the component ranking revealed no significant difference in responses, with the exception of one item, where the difference was close enough to the alpha 0.05, that it should be mentioned. The item "Student background and its influence on them" received a probability rating of 0.056. Principals responding to form B rated this item higher overall (mean was 6.4000), than the form A respondents (mean was 5.4051).

Responses to Questions 2 and 3 in Section C

Question 2 stated: "Do you actually use the criteria above to gauge the effectiveness of your own school?". Eight-one point five percent of the principals responded "yes"; 13.6% responded "no"; and 4.9% (4 cases) did not respond to this question.

Question 3 stated: "To what extent do you think schools are improvable?". Thirty-five point eight percent responded by checking off "somewhat"; 61.7% responded by checking "to a considerable extent"; and 2.5% (2 cases) did not respond.

Comparisons of Results from Criterion Ranking and Factor Analysis

These two analyses are compared because they are based on the principals' evaluation of the 31 criteria. Because each analysis approaches the data from a "different direction", the results could be compared for the purpose of checking the validity of the questionnaire. If the questionnaire asked what it claimed it was asking, then the results of these two analyses should be in general agreement.

The criterion ranking was described under problem 2 as giving highest priority to student and teacher-perceived climate, followed by school plant factors, the principal's managerial behavior, and what was loosely termed as teacher outcomes.

Factor analysis using 5 factors revealed that the criteria fall into the following 6 groups:

GROUP 1: School climate - student related
GROUP 2: Teacher outcomes
GROUP 3: School plant and support service
GROUP 4: Principal's managerial behaviour
GROUP 5: School climate-teacher related
GROUP 6: Teaching process

The results of the two analyses are in general agreement, which allows the questionnaire to be considered sufficiently valid and usable for the purpose of surveying school effectiveness criteria.

Framework Component Ranking

The top 6 components are included here for comparison with the results of the above analyses. Since the components represented a more detailed description (eg., Managerial Behaviour and Managerial Policies were listed as 2 separate items, whereas in the above analyses both were subsumed under Principal's Managerial Behavior), agreement between the results is not likely to be as precise as was the case above. The top 6 components are:

1. School climate (as perceived by teachers);
2. Teacher outcomes (how teachers act and perform due to their feelings about, and reactions to the school);
3. School climate (as perceived by students);
4. Managerial behavior (principal's actions as perceived by the rest of the school);
5. The teaching process (choice of teaching methods and instructional materials); and
6. Teacher characteristics (personal traits, aspirations, attitudes).

Comments

Form A of the questionnaire can be considered as sufficiently reliable for survey use. The Cronbach's reliability coefficient was 0.81344, and comparisons of answers from two groups on a common question (component ranking) showed no significant differences in responses.

The validity of the questionnaire was directly judged by the respondents. Question 2 in section C asked the principals whether they actually use the given criteria to judge the effectiveness of their school. Since the aim of the questionnaire was to produce a list of important criteria of school effectiveness, the response to this question answers directly to the criterion of validity (does the questionnaire measure what it claims to measure). The 8.5% response to the affirmation validates the content of the questionnaire. As a further validity check, the results of the criteria ranking and the factor analysis were compared. The two results showed general agreement, which further supports the validity of the questionnaire. The ranking of the framework components was also compared to the two above-mentioned analyses. Since these comparison involves two different items (criteria and components), only a general agreement in meaning (rather than actual labels) can be expected. General agreement is, in fact evident, with one exception: the item "The Physical Aspects of the School Plant" appears to be given less significance in this ranking.

Summary

Form A of the questionnaire has been deemed reliable, in view of the results of Cronbach's Alpha (reliability coefficient was 0.81344), and T-test performed on the answers of both groups of principals on a common ranking question.

The questionnaire was validated directly by the respondents, 81.5% of whom indicated that they use the criteria contained in the questionnaire to judge the effectiveness of their own schools. The criterion ranking and factor analysis yielded comparable results. The component ranking, although necessarily in a more general way, also shows agreement with the above-mentioned results.

Analysis of Form B

Form A - Problem 1: Demographic Effects on Perceptions of Principals

Problem 1 was stated as follows:

Do demographic differences affect the responses of the principals?

The questions arising out of problem 1 were:

Q.1-1: Will the responses of principals be affected by the type of school jurisdiction in which they work?

Q.1-2: Will the responses of principals differ depending on whether they work in a public or separate system?

Q.1-3: Will the responses of the principals from urban areas differ from those working in non-urban communities?

Q.1-4: Will the grade level of the school (elementary, junior high school, high school) affect the responses of the principals?

Q.1-5: Will the responses of the principals holding a Bachelor of Education degree differ from those having additional education?

Q.1-6: Will the response of male principals differ from those of female principals?

In order to address this problem, a frequency summary of answers to section A will be presented, followed by the treatment of questions 1-1 to 1-6. A brief discussion and a concluding summary will close the analysis of problem 1.

Summary of Demographic Characteristics of Respondents

Frequency distribution of responses to questions regarding the type of school jurisdiction, the type of system, size of the community, grade levels in the school, type of education, and gender, appears in Table 4.17. The major observations were as follows:

1. The majority of respondents were from public school districts.
2. Slightly more respondents (55%) were from the urban sector than from rural (45%).
3. The largest percentage of principals were from elementary schools, followed by "Other", which was identified by content analysis to consist of Early Childhood Services or various forms of Special Education in addition to the regular grades. The third largest percentage of principals came from junior high schools combined with other grades, followed closely by principals from junior high schools. The smallest percentage (7.1%) of principals were from high schools.
4. The principals reported their highest level of education to be Bachelor of Education or higher. Principals with a Masters degree represented the largest percentage.
5. The majority of the principals were male, the female respondents making up only 14.3% of the total group.

FORM B - TABLE 4.17

Form B, Section A: Demographic Characteristics.
Frequency of responses about demographic characteristics.
N = 70

Demographic Characteristics		Frequency No.	Pct.
	Jurisdiction		
1.	District	37	52.9
2.	Division	12	17.1
3.	County	21	30.0
	Type of System		
1.	Public	54	77.1
2.	Catholic Separate	11	15.7
3.	Protestant Separate	5	7.1
4.	Other	-	-
	Size of Community		
1.	Large City (over 50,000)	28	41.4
2.	City	10	14.5
3.	Town	16	23.2
4.	Village	15	21.7
5.	Missing	1	-
	Grade Levels of School		
1.	Elementary School	29	40.6
2.	Elementary-Junior High School	10	14.3
3.	Junior High School	8	11.4
4.	Junior High-High School	1	1.4
5.	High School	5	7.1
6.	Other	17	24.3
	Highest Level of Education		
1.	High School	-	-
2.	1 year of University or equivalent	-	-
3.	2 years of University or equivalent	-	-
4.	3 years of University or equivalent	-	-
5.	Bachelor of Education	13	18.6
6.	Bachelor and Teaching Diploma	10	14.3
7.	2 or more Bachelors	10	14.3
8.	Masters degree	30	42.9
9.	2 Masters degrees	-	-
10.	Doctorate	1	1.4
11.	Other	6	8.6
	Gender		
1.	Female	10	14.3
2.	Male	60	85.7

6. Since this questionnaire was sent to principals only, the first question from the questionnaire became redundant at this time, and hence was not included in the above description.

Organization of Data

Since section A of the questionnaire generates data of a higher level of detail than is needed for this particular study, some categories were simplified in order to answer clearly the questions associated with problem 1. The following simplifications were made:

1. For the comparison of answers of principals from the public and separate systems, the "Catholic Separate" and "Protestant Separate" categories were collapsed into a general "Separate" category. For the purpose of question 1-2, only the answers from the "Public" category and the new "Separate" category were used.
2. For question 1-3, the categories "Large City" and "City" were collapsed into a new category named "Urban". The categories "Town" and "Village" were collapsed into a new category named "Rural". The answers from the members of the two new categories were then compared.
3. Since question 1-4 seeks differences between the three levels - elementary, junior high school and high school, only answers of principals from these three categories were used for this question, leaving out the mixed level categories.
4. Since all the principals held at least a Bachelor of Education, two categories were used to answer question 1-5: the "Bachelor of Education" as indicated by principals, and "Bachelor Plus" which represents the amalgamation of all categories above "Bachelor of Education". Content analysis revealed that the "Other" category in every case indicated some education above the level of Bachelor of Education.
5. The answers of the total group of principals to section B of the questionnaire are presented in terms of absolute frequencies and percent frequencies, in Table 4.18.

FORM B - TABLE 4.18

Frequency Summary of Responses: Absolute Frequencies

FORM B

		PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
		○ Low					○ High (Essential)	○ Low					○ High
		1	2	3	4	5	6	1	2	3	4	5	6
1.	Autonomy of teachers - professional freedom	-	-	7	15	40	8	-	-	5	15	43	7
2.	Reduced number of students per teachers (small class size)	1	4	8	18	25	14	1	6	22	20	15	6
3.	Time for teachers to plan together provided by the principal	1	3	6	25	26	8	3	8	19	26	13	-
4.	Uniform academic standards throughout the school	2	1	5	22	29	10	2	1	14	26	22	4
5.	Staff development and inservice	-	-	3	18	31	18	1	1	14	25	23	6
6.	Availability of appropriate instructional materials	-	-	-	18	34	18	-	-	5	20	33	12
7.	Principal's organizational abilities	-	-	2	9	31	28	-	-	1	16	44	9
8.	Principal's ability to encourage individual participation	-	-	2	14	28	26	-	-	3	21	35	11
9.	Academic progress of students (as a group) checked frequently by principal	3	2	15	23	21	6	2	6	17	24	16	5
10.	Fairness and expediency in allocating funds	-	1	13	15	24	16	-	-	8	18	30	13
11.	System for monitoring school progress used	-	5	10	18	29	8	1	6	10	22	26	5

FORM B - TABLE 4.18 Cont'd

Frequency Summary of Responses: Absolute Frequencies

	FORM B											
	PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
	○ Low					○ High (Essential)	○ Low					○ High
	1	2	3	4	5	6	1	2	3	4	5	6
12. Positive student attitudes	-	-	-	2	25	43	-	-	2	21	34	13
13. School spirit - close, warm atmosphere	-	-	-	3	25	43	-	1	2	20	33	14
14. Teachers indicate expectations that all students can succeed	-	-	-	3	31	35	-	-	5	26	28	8
15. Teachers concerned for emotional well-being of students	-	-	-	3	25	42	-	-	5	19	33	13
16. School perceived by all involved as acting as a coherent whole	-	-	1	7	30	32	-	1	8	19	29	13
17. Parental contact and interest	-	-	1	12	30	27	-	3	5	22	31	9
18. Teachers' satisfaction with principal	-	-	-	18	37	15	-	-	1	26	33	10
19. Punctuality of teachers (start and end lesson on time, etc.)	1	-	6	13	33	17	-	-	9	25	31	5
20. Teacher participation in non-compulsory activities	-	3	2	17	32	15	1	5	9	27	18	9
21. Teachers as role models for students	-	-	1	4	35	30	-	-	4	16	34	15
22. Teachers' goals are compatible with school goals	-	-	1	4	28	37	-	-	4	14	39	13

FORM B - TABLE 4.18 Cont'd

Frequency Summary of Responses: Absolute Frequencies

		FORM B											
		PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
		○ Low					○ High (Essential)	○ Low					○ High
		1	2	3	4	5	6	1	2	3	4	5	6
23.	Instructional effectiveness	-	-	-	4	27	39	-	1	2	22	35	10
24.	Student-centered teaching methods (sensitive to individual differences)	-	-	1	7	32	30	-	2	7	32	24	5
25.	Pupil progress frequently monitored by teachers	-	-	-	9	30	31	-	-	1	18	41	10
26.	Class time spent productively on task	-	-	1	10	25	32	-	-	2	28	34	4
27.	Adequacy of the janitorial service	2	3	12	21	21	11	1	5	15	13	25	11
28.	Quiet work space for teachers	-	6	13	25	18	8	5	9	12	22	16	6
29.	Sufficient number of parking spaces and plug-ins	12	20	18	10	5	5	7	8	6	12	15	22
30.	Pleasant staff room facilities	1	6	13	23	18	9	5	5	11	19	20	10
31.	Good condition of school grounds	1	6	11	20	24	8	2	13	12	17	21	5

FORM B - TABLE 4.18

Frequency Summary of Responses: Percentage Frequencies

		FORM B											
		PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
		○ Low					○ High (Essential)	○ Low					○ High
		1	2	3	4	5	6	1	2	3	4	5	6
1.	Autonomy of teachers - professional freedom	-	-	10.0	21.4	57.1	11.4	-	-	7.0	21.4	61.4	10.0
2.	Reduced number of students per teachers (small class size)	1.4	5.7	11.4	25.7	35.7	20.0	1.4	8.6	31.4	28.6	21.4	8.6
3.	Time for teachers to plan together provided by the principal	1.4	4.3	8.7	36.2	37.7	11.6	4.3	11.6	27.5	37.7	18.8	-
4.	Uniform academic standards throughout the school	2.9	1.4	7.2	31.9	42.0	14.5	2.9	1.4	20.3	37.7	31.9	5.8
5.	Staff development and inservice	-	-	4.3	25.7	44.3	25.7	1.4	1.4	20.0	35.7	32.9	8.6
6.	Availability of appropriate instructional materials	-	-	-	25.7	48.6	25.7	-	-	7.1	28.6	47.1	17.1
7.	Principal's organizational abilities	-	-	2.9	12.9	44.3	40.0	-	-	1.4	22.9	62.9	12.9
8.	Principal's ability to encourage individual participation	-	-	2.9	20.0	40.0	37.1	-	-	4.3	30.0	50.0	15.7
9.	Academic progress of students (as a group) checked frequently by principal	4.3	2.9	21.4	32.9	30.0	8.6	2.9	8.6	24.3	34.3	22.9	7.1
10.	Fairness and expediency in allocating funds	1.4	-	18.8	21.7	34.8	23.2	-	-	11.6	26.1	43.5	18.8
11.	System for monitoring school progress used	-	7.1	14.3	25.7	41.4	11.4	1.4	8.6	14.3	31.4	37.1	7.1

FORM B - TABLE 4.18 Cont'd

Frequency Summary of Responses: Percentage Frequencies

	FORM B											
	PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
	Low 1	2	3	4	5	High (Essential) 6	Low 1	2	3	4	5	High 6
12. Positive student attitudes	-	-	-	2.9	35.7	61.4	-	-	2.9	30.0	48.6	18.6
13. School spirit - close, warm atmosphere	-	-	-	4.3	35.7	60.0	-	1.4	2.9	28.6	47.1	20.0
14. Teachers indicate expectations that all students can succeed	-	-	-	4.3	44.9	50.7	1.4	1.4	7.2	37.7	40.6	11.6
15. Teachers concerned for emotional well-being of students	-	-	-	4.3	35.7	60.0	-	-	7.1	27.1	47.1	18.6
16. School perceived by all involved as acting as a coherent whole	-	-	1.4	10.0	42.9	45.7	-	1.4	11.4	27.1	41.4	18.6
17. Parental contact and interest	-	-	1.4	17.1	42.9	38.6	-	4.3	7.1	31.4	44.3	12.9
18. Teachers' satisfaction with principal	-	-	-	25.7	52.9	21.4	-	-	1.4	37.1	47.1	14.3
19. Punctuality of teachers (start and end lesson on time, etc.)	1.4	-	8.6	18.6	47.1	24.3	-	-	12.9	35.7	44.3	7.1
20. Teacher participation in non-compulsory activities	-	4.3	2.9	24.6	46.4	21.7	1.4	7.2	13.0	39.1	26.1	13.0
21. Teachers as role models for students	-	-	1.4	5.7	50.0	42.9	-	-	5.8	23.2	49.3	18.6
22. Teachers' goals are compatible with school goals	-	-	1.4	5.7	40.0	52.9	-	-	5.7	20.0	55.7	18.6

FORM B - TABLE 4.18 Cont'd

Frequency Summary of Responses: Percentage Frequencies

		FORM B											
		PREREQUISITE FOR EFFECTIVENESS						PERFORMANCE					
		Low 1	2	3	4	5	High (Essential) 6	Low 1	2	3	4	5	High 6
23.	Instructional effectiveness	-	-	-	5.7	38.6	55.7	-	1.4	2.9	31.4	50.0	14.3
24.	Student-centered teaching methods (sensitive to individual differences)	-	-	1.4	10.0	45.7	42.9	-	2.9	10.0	45.7	34.3	7.1
25.	Pupil progress frequently monitored by teachers	-	8.6	18.6	35.7	25.7	11.4	7.1	12.9	17.1	31.4	22.9	8.6
26.	Class time spent productively on task	-	-	1.5	14.7	36.8	47.1	-	-	2.9	41.2	50.0	5.9
27.	Adequacy of the janitorial service	2.9	4.3	17.1	30.0	30.0	15.7	1.4	7.1	21.4	18.6	35.7	15.7
28.	Quiet work space for teachers	-	8.6	18.6	35.7	25.7	11.4	7.1	12.9	17.1	31.4	22.9	8.6
29.	Sufficient number of parking spaces and plug-ins	17.1	28.6	25.7	14.3	7.1	7.1	10.0	11.4	8.6	17.1	21.4	31.4
30.	Pleasant staff room facilities	1.4	8.6	18.6	32.9	25.7	12.9	7.1	7.1	15.7	27.1	28.6	14.3
31.	Good condition of school grounds	1.4	8.6	15.7	28.6	34.3	11.4	2.9	18.6	17.1	24.3	30.0	7.1

Question B1-1: Type of Jurisdiction

Will the responses of principals be affected by the type of school jurisdiction in which they work?

Findings

F-test with Scheffe procedure was performed on the three categories - District, Division, and County. A simplified summary of the findings is presented in Table 4.19. The complete F-test documentation appears in Appendix K. The major findings were as follows:

1. Significant differences occurred in 8% of the answers.
2. The criteria for which answers were significantly different at alpha 0.05, were: 18 in the Prerequisite column, and 18, 21, 22, 27, in the Performance column.
3. In all cases, the District respondents differed from either the Division or County respondents, or from both.

Comments on Findings

The criterion to which the District principals assigned higher importance was Teachers' satisfaction with principal. Similarly, in the performance rating, the answers that registered as significantly higher were teacher related. The criteria were: Teachers' satisfaction with principal; Teachers as role models for students; Teachers' goals are compatible with school goals; adequacy of janitorial service.

Summary

Generally, the jurisdiction type did not affect greatly the answers of the respondents. The 8% of the criteria on which District principals scored higher were teacher related.

FORM B - TABLE 4.19

District/Division/County
F-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	Significant Groups	F Value	Probability
18	X		1 + 2, 1 + 3	5.272	0.0075
18		X	1 + 3	5.234	0.0077
21		X	1 + 2	3.461	0.0372
22		X	1 + 3	3.243	0.0453
27		X	1 + 3, 2 + 3	5.746	0.0050

Group 1 = District
Group 2 = Division
Group 3 = County
Probability = 0.05

Question B1-2: Public or Separate

Will the responses of the principals differ, depending on whether they work in a public or separate system?

Findings

T-test was performed on the answers from groups previously described as "Public" and "Separate". A simplified summary of the findings is presented in Table 4.20. The complete T-test documentation appears in Appendix L. The major findings were as follows:

1. Significant differences occurred in less than 5% of the answers.
2. The criteria for which answers were significantly different at alpha 0.05, were: 19, 23, in the Prerequisite column, and 19 in the Performance column.
3. There were several answers with probabilities close to the alpha 0.05, that merit being listed as well. The criteria were: 10, 21, 28, 29, all of which got higher rating in the Performance column.
4. With one exception, all the criteria with a higher rating came from Separate system respondents.

Comments on Findings

The criterion to which Separate school principals assigned higher importance was Punctuality of teachers (start and end lesson on time, etc.). Likewise the only criterion rated higher by the public school principals is teacher oriented: criterion 23 is Instructional effectiveness. Similarly in the performance rating, the answer that registered as significantly higher was teacher related. The criterion was Punctuality of teachers (start and end lessons on time, etc.). The criteria which rated close to the significance level were in the Performance column. The criteria were related to teachers and resources (both financial and physical). The criteria were: Fairness and expediency in allocating funds, Teachers as role models for students, Quiet work space for teachers, and Sufficient number of parking spaces and plug-ins.

FORM B - TABLE 4.20

Public/Separate
T-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	T Value	Probability
19	S	S	-2.68/-3.94	0.010/0.001
23	P		2.24	0.036
Close To Signficant				
10		S	-1.93	0.064
21		S	-2.02	0.053
28		S	-1.98	0.058
29		S	-1.97	0.058

P = Public
S = Separate
Probability = 0.05

Summary

Overall, being from the public or separate system made very little difference in the answers. Most of the differences that did occur were due to the higher ratings from the separate school principals on criteria related to teachers and resources, primarily in the Performance column.

Question B1-3: Urban and Non-Urban

Will the responses of the principals from urban areas differ from those working in non-urban communities?

Findings

T-test was performed on the answers from groups previously described as "Urban" and "Rural". A simplified summary of the findings is presented in Table 4.21. A complete T-test documentation appears in Appendix M. The major findings were as follows:

1. Significant differences occurred in 13% of the answers.
2. The criteria for which answers were significantly different at the alpha 0.05 were: 4, 10, 18, 20, 29 in the Prerequisite column, and 7, 10, 18 in the Performance column.
3. There were two responses with probabilities so close to the alpha 0.05 that they merit being listed as well. The criteria were 7 in the Prerequisite and 29 in the Performance column.
4. In all but one case, the urban respondents gave the criteria a higher rating. The exception was criterion 4 in the Prerequisite column, which received a higher rating from the rural respondents.

Comments on Findings

The criteria to which urban principals assigned higher importance were related to various actions and abilities of the principal as a facilitator for the functioning of the teachers and the school. The criteria which rated higher were: Fairness and expediency in allocating funds, Teachers' satisfaction with the principal, Teacher participation in non-compulsory activities, and Sufficient

FORM B - TABLE 4.21

Urban/Rural
T-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	T Value	Probability
4	R		-2.21	0.031
7		U	3.06	0.003
10	U	U	2.13/2.91	0.037/0.005
18	U	U	3.12/2.41	0.003/0.019
20	U		2.26	0.028
29	U		2.23	0.023
Close to Significant				
7	U		1.99	0.051
29		U	1.99	0.052

R = Rural
U = Urban
Probability = 0.05

number of parking spaces and plug-ins. The sole higher rating given by the rural principals in the Prerequisite column was: Uniform academic standards throughout the school. The criterion which rated very close to the significance level in importance was: Principal's organizational abilities. In the performance rating, the answers that registered as significantly higher were again related to the principal's abilities as a facilitator. The criteria were: Principal's organizational abilities, Fairness and expediency in allocating funds, and Teachers' satisfaction with principal. The criterion which rated close to the significance level in performance was: Sufficient number of parking spaces and plug-ins.

Summary

Overall, urban principals rated about 13% of the criteria higher than the rural principals. The criteria in both columns were related to the abilities of the principal as a facilitator.

Question B1-4: Grade Level of School

Will the grade level of the school (elementary, junior high school, high school) affect the responses of the principals?

Findings

F-test was performed on the three groups - "Elementary", "Junior High", and "Senior High" - which were described earlier. A simplified summary of the findings is presented in Table 4.22. A complete F-test documentation appears in Appendix N.

1. Significant differences occurred in 8% of the answers.
2. The criteria for which answers were significantly different at alpha 0.05 were: 20 in the Prerequisite column, and 18, 21, 24, 30 in the Performance column.
3. There were 3 answers with probabilities close enough to the alpha 0.05, that they merit being listed as well. The criteria, all in the Performance column, were: 2, 9, 16.
4. The significant responses came from all three school levels.

FORM B - TABLE 4.22

Elementary/Junior High/Senior High
F-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	Significant Groups	F Value	Probability
18		X	2 + 3	3.352	0.0454
20	X		2 + 1	4.668	0.0152
21		X	1 + 3	3.883	0.0290
24		X	2 + 1	3.408	0.0433
30		X	1 + 2, 3 + 2	6.695	0.0032
Close to Significant					
2		X	1 + 2	3.094	0.0566
9		X	2 + 3	3.073	0.0577
16		X	1 + 3	3.003	0.0612

Group 1 = Elementary
Group 2 = Junior High
Group 3 = Senior High
Probability = 0.05

Comments on Findings

The various criteria to which the principals from all three levels assigned higher performance were all teacher oriented. The criteria which rated higher were: Teachers' satisfaction with principal, Teachers as role models for students; Student-centered teaching methods (sensitive to individual differences), and Pleasant staff room facilities.

The only criterion rating significantly higher in the Prerequisite column was Teacher participation in non-compulsory activities.

The criteria which rated close to the significance level in performance were: Reduce number of students per teacher (small class size), Academic progress of students (as a group) checked frequently by principal, and School perceived by all involved as acting as a coherent whole.

Summary

The criteria that were rated significantly higher were mostly in the Performance column, and were generally teacher related. All three grade levels were represented, approximately equally, therefore it might be concluded that grade level has little, if any, effect on the principals' perception of effectiveness.

Question B1-5: Education Level of Principal

Will the responses of the principals holding a Bachelor of Education degree differ from those having additional education?

Findings

T-test was performed on the groups "Bachelor" and "Bachelor Plus" which were described earlier. A simplified summary of the findings is presented in Table 4.23. The complete T-test documentation appears in the Appendix O. The major findings were as follows:

1. Significant differences occurred in less than 5% of the answers.
2. The criteria for which answers were significantly different at alpha 0.05 were: 1, 22, 23, all in the Performance column.
3. In all cases the Bachelor Plus respondents gave a higher rating.

FORM B - TABLE 4.23

Bachelor/Bachelor Plus
T-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	T Value	Probability
6		M	-3.83	0.001
22		M	-3.17	0.006
23		M	-2.23	0.041

B = Bachelor
M = More (Bachelor Plus)
Probability = 0.05

Comments on Findings

The criteria to which the Bachelor Plus principals assigned higher rating on performance were teacher related. The higher rated criteria were: Autonomy of teachers' professional freedom, Teachers' goals are compatible with school goals, and Instructional effectiveness.

Summary

The small percentage of criteria that received higher rating on performance by the Bachelor Plus principals was teacher-oriented.

Question B1-6: Male or Female Principal

Will the responses of male principals differ from those of female principals?

Findings

T-tests were performed on the "Female" and "Male" groups. A simplified summary of the findings is presented in Table 4.24. The complete T-test documentation appears in Appendix P. The major findings were as follows:

1. Significant differences occurred in 6% of the answers.
2. The criteria for which answers were significantly different at alpha 0.05 were: 3, 15, 16, 17, all in the Prerequisite column.
3. In all cases, the female respondents gave the criteria a higher rating.

Comments on Findings

The criteria to which female principals assigned higher importance were climate oriented. The criteria which were rated higher were: Time for teachers to plan together provided by principal, Teachers concerned for emotional well-being of students, School perceived by all involved as acting as a coherent whole, and Parental contact and interest.

FORM B - TABLE 4.24

Female/Male

T-Test Summary of Statistically Significant Responses

Criterion No.	Prerequisite	Performance	T Value	Probability
3	F		2.82	0.011
15	F		3.17	0.004
16	F		3.37	0.003
17	F		2.56	0.024

F = Female

M = Male

Probability = 0.05

Summary

A relatively small percentage (6%) of the criteria were rated higher by the female teachers. All were in the Prerequisite column and all were climate oriented.

Form B - Problem 2: Major Effectiveness Indicators

Problem 2 was stated as follows:

Which criteria do principals in Alberta consider to be major indicators of school effectiveness?

The question arising out of problem 2 was:

Question B2-1: Principal's Criteria vs Framework Criteria

Will the clusters of criteria identified as important by the principals, correspond to the categorization indicated by the conceptual framework?

Problem 2 deals primarily with section B of the questionnaire. In order to answer the problem question, two different analytical methods were employed. A frequency analysis of the criterion ranking was performed in order to get an overall ranking of the criteria. This was followed by factor analysis of the Prerequisite items in section B. The criterion ranking will be described first, followed by the factor analysis.

Criterion Ranking

Question 1 in section C of the questionnaire required the respondents to choose the most important criterion from each group (of 5-6 criteria) given in section B. The frequencies with which each criterion has been chosen have been recorded. All criteria with absolute frequencies of 15 or higher were recorded, and ranked. Table 4.25 shows the high frequency criteria from each of the 6 groups presented in section B.

The summary of the highest ranking criteria in each group is presented in Table 4.26.

FORM B - TABLE 4.25

Criterion Ranking Within Groups

Group No.	Criterion No.	Absolute Frequency	Percentage Frequency	Criterion Description
1	1	18	26.5	Autonomy of teachers - professional freedom
	5	17	25.0	Staff development and inservice
2	8	34	50.7	Principal's ability to encourage individual participation
	7	18	26.9	Principal's organizational abilities
3	12	19	27.9	Positive student attitudes
	14	17	25.0	Teachers indicate expectations that all students can succeed
	13	16	23.5	School spirit - close, warm atmosphere
4	22	33	48.5	Teachers' goals are compatible with school goals
	21	22	32.4	Teachers as role models for students
5	23	32	46.4	Instructional effectiveness
	24	24	34.8	Student-centered teaching methods (sensitive to individual differences)
6	30	25	37.3	Pleasant staff room facilities
	27	21	31.3	Adequacy of the janitorial services
	28	17	25.4	Quiet work space for tea

FORM B - TABLE 4.26

Summary of Criterion Ranking by Groups

Group	Criterion	Description
1	1	Autonomy of teachers - professional freedom
2	8	Principal's ability to encourage individual participation
3	12	Positive Student attitudes
4	22	Teachers' goals are compatible with school goals
5	23	Instructional effectiveness
6	30	Pleasant staff room facilities

These criteria could be described as conditions which were perceived by the principals to be necessary for the achievement of school effectiveness. This question was included in the design of the study in anticipation of a situation where total frequencies might not show a clear difference between the degree of importance of the criteria. Since the ranking of 31 criteria would be somewhat difficult to operationalize, the method of ranking within the groups was utilized. In order to reduce the constraint imposed on the ranking by the group structure, the criteria were then ranked by the researcher on the basis of frequencies from Table 4.25 only, disregarding the group structure. Table 4.27 shows the criteria ranked according to frequencies. The content and order of the criterion ranking could be subsumed under the following general headings: Principal's ability to encourage positive attitudes, was followed by Positive attitudes of teachers, The teaching process, School plant and support services, Positive student attitudes, The principal's managerial skills, and assorted criteria which could be described generally as teacher related. School spirit (atmosphere) ranked last among the top 13 criteria.

Factor Analysis

Factory analysis (oblique) was tried with 9, 8, 7, 6, and 5 factors. In selecting the number of factors, three criteria were used: 1) eigenvalue must be higher than 1.00; 2) the items should fall into clearly separated groups; and 3) the items should be confirmed by Cattell's Scree Test.

The varimax rotated factor matrix, using 5 factors and employing 10 iterations yielded the most satisfactory results in keeping with the 3 selection criteria. Groups yielded by the 5 factors are presented in Table 4.28 For complete documentation of the 5 factor analysis see Appendix Q. Cattell's Scree Test appears in Figure 7.

The 6 groups defined by factor analysis have been described by the researcher with the following identifying headings:

GROUP 1: School plant and support services
GROUP 2: School climate (general)
GROUP 3: Teacher outcomes
GROUP 4: The teaching process
GROUP 5: The principal's managerial behavior
GROUP 6: Managerial and supervisory policies

FORM B - TABLE 4.27

Ranking of Criteria as Requested in Question 1,
Section C of Questionnaire, According to Frequency

Rank	Criterion No.	Percentage Frequency	Criterion Description
1*	8	50.7	Principal's ability to encourage individual participation
2*	22	48.5	Teachers' goals are compatible with school goals
3*	23	46.4	Instructional effectiveness
4*	30	37.3	Pleasant staff room facilities
5	24	34.8	Student-centered teaching methods (sensitive to individual differences)
6	21	32.4	Teachers as role models for students
7	27	31.3	Adequacy of the janitorial service
8*	12	27.9	Positive student attitudes
9	7	26.9	Principal's organizational abilities
10*	1	26.5	Autonomy of teachers - professional freedom
11	28	25.4	Quiet work space for teachers
12	14	25.0	Teachers indicate expectations that all students can succeed
12	5	25.0	Staff development and inservice
13	13	23.5	School spirit - close, warm atmosphere

* denotes criteria that were ranked highest in their group

FORM B - TABLE 4.28

Prerequisite Criteria Groupings Using 5 Factor Analysis

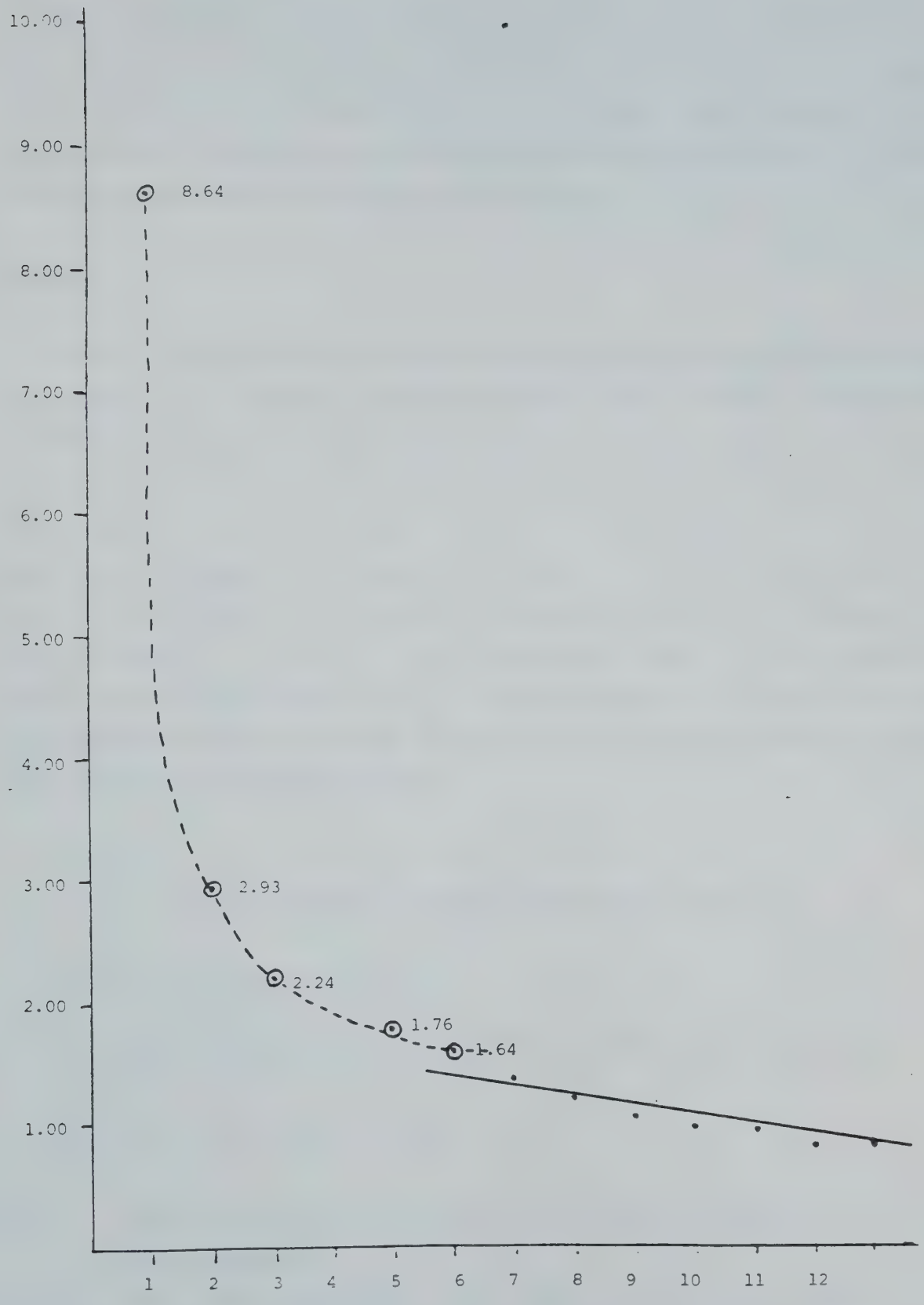
Factor No.	Group No.	Criterion No.	Criterion Description
1	1	27	Adequacy of the janitorial service
		28	Quiet work space for teachers
		29	Sufficient number of parking spaces and plug-ins
		30	Pleasant staff room facilities
		31	Good condition of school grounds
2	2	1	Autonomy of teachers - professional freedom
		10	Fairness and expediency in allocating funds
		12	Positive student attitudes
		13	School spirit - close, warm atmosphere
2	3	16	School perceived by all involved as acting as a coherent whole
		18	Teachers' satisfaction with principal
		19	Punctuality of teachers (start and end lesson on time, etc.)
		21	Teachers as role models for students
3	4	14	Teachers indicate expectations that all students can succeed
		15	Teachers concerned for emotional well-being of students
		22	Teachers' goals are compatible with school goals
		24	Student-centered teaching methods (sensitive to individual differences)

FORM B - TABLE 4.28 Cont'd

Prerequisite Criteria Groupings Using 5 Factor Analysis

Factor No.	Group No.	Criterion No.	Criterion Description
4	5	3	Time for teachers to plan together provided by principal
		5	Staff development and inservice
		6	Availability of appropriate instructional materials
		7	Principal's organizational abilities
		8	Principal's ability to encourage individual participation
		9	Academic progress of students (as a group) checked frequently by principal
		20	Teacher participation in non-compulsory activities
5	6	4	Uniform academic standards throughout the school
		11	System for monitoring school progress used
		23	Instructional effectiveness
		26	Class time spent productively on task

FIGURE 7



FORM B: CATTELL'S SCREE TEST CURVE - CRITERION RANKING FACTOR ANALYSIS

Comments

The results show again, as with the criterion ranking, that the principals placed a significant degree of emphasis on the school plant factors, teacher-related factors, and principal-related factors. While school climate was still considered important by this group of principals, it did not receive the highest rating, as was the case with the group A principals.

Summary

Factor analysis (oblique) using 5 factors gave criterion groupings the best conformed to the 3 selection criteria described above. Content analysis of the resultant 6 groups of criteria gave rise to the following 6 dimensions of effectiveness as perceived by the principals: School plant and support services, School climate (general), Teacher outcomes, The teaching process, Managerial behavior, and Managerial and supervisory policies. There is a general agreement in the trends followed by the criterion ranking and the factor analysis results. Both emphasize 3 key areas - teacher-related factors, school plant-related factors, and principal-related factors. In both analyses, the school plant-related factors precede student attitudes. While both sets of results referred to climate, it did not receive top priority ranking.

Form B - Problem 3: School Performance Assessment

Problem 3 was stated as follows:

How do principals assess their school's performance on the above criteria?

Questions arising out of problem 3 were:

Q.3-1: Will the principal's assessment reveal a general pattern of strengths and weaknesses?

Q.3-2: Are there significant differences between the rating of the importance of the criteria and the schools' performance on the criteria?

Question 3-1 will be answered by a percent analysis of the performance rating of the 31 given criteria. Question 3-2 will be answered by a T-test comparing the ratings in the Prerequisite and Performance columns.

Question B3-1: Strengths and Weaknesses

Will the principal's assessment reveal a general pattern of strengths and weaknesses?

The means of the criterion ratings in the Performance column were ranked from highest to lowest, as shown in Table 4.29. The ranked criteria with descriptions are included in Table 4.30.

Comments

The performance assessment by this group of principals presents a rather encouraging picture. The two criteria which received the highest performance rating were: Principal's organizational abilities, and Teachers' goals are compatible with school goals. The two criteria fall into the key areas of managerial behavior, and teacher attitudes. The remainder of the criteria in the top and third falll into the general areas of student and teacher-related climate, the teaching process, and again, managerial behavior. It would appear that high performance in these key areas would be a considerable aid in any school improvement program. The bottom one-third, which includes criteria with lower performance and hence indicates need for improvement, falls basically into two categories: Working conditions for teachers, and The principal's initiative in setting and monitoring the academic standards in the schools.

Summary

Top performance rating was given by the principals to the following two criteria: Principal's organizational abilities, and Teachers' goals are compatible with school goals. The lowest rating was given to the performance on the criterion time for teachers to plan together provided by principal. In general, schools performed well in the areas of managerial behavior, teacher attitudes,

FORM B - TABLE 4.29

Ranking of Means for Responses on Performance Criteria

Criterion No.	X	Order From Highest(1) to Lowest(26)
1	4.7429	7
2	3.8571	23
3	3.5507	26
4	4.1159	20
5	4.2286	17
6	4.7429	7
7	4.8714	1
8	4.7714	6
9	3.8714	22
10	4.6957	9
11	4.1571	19
12	4.8286	4
13	4.8143	5
14	4.4928	13
15	4.7714	6
16	4.6429	10
17	4.5429	12
18	4.7429	7
19	4.4571	14
20	4.2029	18
21	4.8696	2
22	4.8714	1
23	4.7286	8
24	4.3286	15
25	4.8571	3
26	4.5882	11
27	4.2714	16
28	3.7571	25
29	4.2286	17
30	4.0571	21
31	3.8143	24

FORM B - TABLE 4.30

Ranking of School Performance on the Given Criteria

Order Highest(1) To Lowest(26)	Criterion No.	Criterion
1	7	Principal's organizational abilities
1	22	Teachers' goals are compatible with school goals
2	21	Teachers as role models for students
3	25	Pupil progress frequently monitored by teachers
4	12	Positive student attitudes
5	13	School spirit - close, warm atmosphere
6	8	Principal's ability to encourage individual participation
6	15	Teachers concerned for emotional well-being of students
7	1	Autonomy of teachers - professional freedom
7	6	Availability of appropriate instructional materials
7	18	Teachers' satisfaction with principal
8	23	Instructional effectiveness
9	10	Fairness and expediency in allocating funds
10	16	School perceived by all involved as acting as a coherent whole
11	26	Class time spent productively on task
12	17	Parental contact and interest
13	14	Teachers indicate expectations that all students can succeed
14	19	Punctuality of teachers (start and end lesson on time, etc.)
15	24	Student-centered teaching methods (sensitive to individual differences)
16	27	Adequacy of the janitorial service

FORM B - TABLE 4.30 Cont'd

Ranking of School Performance on the Given Criteria

Order Highest(1) To Lowest(26)	Criterion No.	Criterion
17	5	Staff development and inservice
17	29	Sufficient number of parking spaces and plug-ins
18	20	Teacher participation in non-compulsory activities
19	11	System for monitoring school progress used
20	4	Uniform academic standards throughout the school
21	30	Pleasant staff room facilities
22	9	Academic progress of students (as a group) checked frequently by principal
23	2	Reduced number of students per teacher (small class size)
24	31	Good condition of school grounds
25	28	Quiet work space for teachers
26	3	Time for teachers to plan together provided by principal

student and teacher-related climate, and the teaching process. The schools performed poorly in the areas of the principal's educational leadership, and working conditions for teachers.

Question B3-2: Importance vs Performance of Criteria

Are there significant differences between the rating of the importance of the criteria and the school's performance on the criteria?

T-test was performed on the ratings of the Prerequisite and Performance criteria. Significant differences in rating were noted in 24 cases, close to significant differences were noted in 3 cases, and no significant differences were found in 4 cases. Table 4.31 shows the criteria and indicates the degree of difference in their rating. The column with the higher rating is indicated by an X. Full report of T-test is included in Appendix S.

Comments

Table 4. indicates that the majority of the criteria were rated significantly higher in the Prerequisite column than in the Performance column. It is interesting to note that the two criteria which were included in the design of the questionnaire to fulfill a function similar to reversed questions appear, indeed, to be judged as less important by the principals. Criterion 29 - Sufficient number of parking spaces and plug-ins, was rated significantly lower in the Prerequisite column than in the Performance column. Criterion 30 - Pleasant staff room facilities was judged comparably in both columns. In neither case is the Prerequisite of either criterion judged significantly higher.

Summary

Comparisons of the ratings of the criteria on their importance and performance indicates that most criteria received a significantly lower performance rating. The 4 criteria which received a similar rating on their importance as well as performance, fall into two general categories: Teacher-related and School plant and service-related.

FORM B - TABLE 4.31

T-Test of Criterion Rating: Significant Differences Between "Prerequisite" and "Performance"

Criterion No.	Prerequisite	Performance	Criterion Description
2	X		Reduced number of students per teacher (small class size)
3	X		Time for teachers to plan together provided by principal
4	X		Uniform academic standards throughout the school
5	X		Staff development and inservice
6	X		Availability of appropriate instructional materials
7	X		Principal's organizational abilities
8	X		Principal's ability to encourage individual participation
12	X		Positive student attitudes
13	X		School spirit - close, warm atmosphere
14	X		Teachers indicate expectations that all students can succeed
15	X		Teachers concerned for emotional well-being of students
16	X		School perceived by all involved as acting as a coherent whole
17	X		Parental contact and interest
18	X		Teachers' satisfaction with principal
19	X		Punctuality of teachers (staff and end lesson on time, etc.)
20	X		Teacher participation in non-compulsory activities
21	X		Teachers as role models for students
22	X		Teachers' goals are compatible with school goals

p 0.05 Signficantly higher rating is marked with X.

FORM B - TABLE 4.31 Cont'd

T-Test of Criterion Rating: Significant Differences Between "Prerequisite" and "Performance"

Criterion No.	Prerequisite	Performance	Criterion Description
23	X		Instructional effectiveness
24	X		Student-centered teaching methods (sensitive to individual differences)
25	X		Pupil progress frequently monitored by teachers
26	X		Class time spent productively on task
28	X		Quiet work space for teachers
29		X	Sufficient number of parking spaces and plug-ins
Close to Significant			
9	X		Academic progress of students (as a group) checked frequently by principal
11	X		System for monitoring school progress used
31	X		Good condition of school grounds
No Significant Difference			
1			Autonomy of teachers - professional freedom
10			Fairness and expediency in allocating funds
27			Adequacy of janitorial service
30			Pleasant staff room facilities

Form B - Problem 4: Conceptual Framework and School Effectiveness

Problem 4 was stated as follows:

How do principals evaluate the components of the conceptual framework in terms of their impact on school effectiveness?

The question arising out of problem 4 was:

Question B4-1: Key Factors in the Framework

Are the components equivalent in significance, or do some components represent key factors in the framework of the school organization?

In section C of the questionnaire, the last question presented 11 items, 9 of which are, in fact, components of the conceptual framework. This question complements the criterion rating in the Prerequisite column, which was presented in problem 2. The component ranking is, in essence, problem 2 judged on a more abstract level.

To analyze the component ranking, means of the rating frequencies were calculated for this group of principals. The means were then ranked, in order to determine how the group of principals judged these components in terms of importance. Table 4.32 shows the components arranged from most important to least important.

Comments

In agreement with the criterion ranking (problem 2), which placed criteria associated with managerial behavior, and teacher attitudes at the top of the list, the component ranking placed Managerial behavior first, followed by School climate (as perceived by teachers), and Teacher characteristics. It would seem that this group of principals recognized the influence of the administrator on teacher and student attitudes, and on their performance. It is interesting to note that the group B principals assigned more importance to Students' background (placing it in seventh position) than did the group A principals. Decline in enrollments, was again judged to have the least impact on school improvement.

FORM B - TABLE 4.32

Framework Component Ranking

Order	Component Number	$\bar{X}$	Component Description
1	c	6.714	Managerial behavior
2	f	6.657	School climate (as perceived by teachers)
3	d	6.529	Teacher characteristics
4	a	6.457	Structure of the school organization
5	e	6.429	School climate (as perceived by students)
6	h	6.414	The teaching process
7	k	6.400	Students' background and its influence on them
8	b	6.329	Managerial policies
9	g	6.300	Teacher outcomes
10	i	6.029	The physical aspects of the school plant
11	j	5.900	Decline in enrollments

Summary

Question 4 in section C of the questionnaire involved the ranking of the components of the theoretical framework, in terms of their impact on school improvements. The top 3 items were: Managerial behavior, School climate (teacher-related), and Teacher characteristics. The last two items were: The physical aspects of the school plant and Decline in enrollments.

Form B - Problem 5: Assessment of Survey Instrument

Problem 5 was stated as follows:

Is the survey instrument valid and reliable?

Questions arising our of problem 5 were:

Q.5-1: Are both forms of the questionnaire valid and reliable to a satisfactory degree?

Q.5-2: Are both forms of the questionnaire equivalent, so that one could be used as a pre-test and the other as a post-test in a school effectiveness program?

Question 5-1 will be answered by applying Cronbach's Alpha to check the reliability of form A and by analyzing the results of T-test which was performed on the component ranking in section C of both forms of the questionnaire. Question 5-2 will involve comparisons between the two forms of the questionnaire on the factor analysis and criterion ranking. Analysis of question 5-2 will hence apply to both questionnaires.

Question B5-1: Validity and Reliability

Are both forms of the questionnaire valid and reliable to a satisfactory degree?

Cronbach's Alpha

The reliability coefficient for section B and C of form B (ie., the whole questionnaire, with the exclusion of section A which deals with demographic data) was determined to be 0.81612.

T-test on Last Question of Both Forms

T-test on the component ranking revealed no significant differences in responses, with the exception of one item, where the difference was close enough to the alpha 0.05, that it should be mentioned. The item "Students' background and its influence on them" received probability rating of 0.056. Principals responding to form B rated this item higher overall (mean was 6.4000), than the form A respondents (mean was 5.4051). Appendix J contains the T-test of the framework component ranking from Form A and B.

Responses to Questions 2 and 3 in Section C

Question 2 stated: "Do you actually use the criteria above to gauge the effectiveness of your own school?". Eighty-two point nine percent of the principals responded "yes"; 15.7% responded "no"; and 1.4% (1 case) did not respond to this question.

Question 3 stated: "To what extent do you think schools are improvable?". Twenty-four point three percent responded by checking off "somewhat"; 74.3% responded by checking "to a considerable extent"; and 1.4% (1 case) did not respond.

Comparison of Results from Criterion Ranking and Factor Analysis

These two analyses are compared because they are based on the principals' evaluation of the criteria. Because each analysis approaches the data from a "different direction", the results could be compared for the purpose of checking the validity of the questionnaire. If the questionnaire asked what it claimed it was asking, then the results of these two analyses should be in general agreement.

The criterion ranking was described under problem 2 as giving highest priority to the principal's ability to encourage positive attitudes, followed by positive attitudes of teachers, the teaching process, school plant and support services, positive student attitudes, the principal's managerial skills, and assorted criteria which could be described generally as teacher-related.

Factor analysis using 5 factors revealed that the criteria fall into the following 6 groups:

GROUP 1: School plant and support services
GROUP 2: School climate (general)
GROUP 3: Teacher outcomes
GROUP 4: The teaching process
GROUP 5: Managerial behavior
GROUP 6: Managerial and supervisory policies

The results of the two analyses are in general agreement, placing emphasis on managerial behavior, teaching attitudes and outcomes, and the teaching process. This allows the questionnaire to be considered sufficiently valid and usable for the purpose of surveying school effectiveness criteria.

Framework Component Ranking

The top 6 components are included here for comparison with the results of the above analyses. Since the components represented a more detailed description (eg., Managerial behavior and managerial policies were listed as 2 separate items, whereas in the above analyses both were subsumed under Principal's managerial behavior), agreement between the results is not likely to be as precise as was the case above. The top 6 components are:

1. Managerial behavior;
2. School climate (as perceived by teachers);
3. Teacher characteristics;
4. Structure of the school organization;
5. School climate (as perceived by students); and
6. The teaching process.

Comments

Form A of the questionnaire can be considered as sufficiently reliable for survey use. The Cronbach's reliability coefficient was 0.81612, and comparison of answers from two groups (form A and B) on a common question (component ranking) showed no significant differences in responses.

The validity of the questionnaire was directly judged by the respondents. Question 2 in section C asked the principals whether they actually use the given criteria of school effectiveness, the response to this question answers directly to the criterion of validity (Does the questionnaire measure what it claims to measure?). The 82.9% response to the affirmation validates the content of the questionnaire. As a further validity check, the results of the criterion ranking and the factor analysis were compared. The two results showed general agreement, which further supports the validity of the questionnaire. The ranking of the framework components was also compared to the two above-mentioned analyses. Since this comparison involves two different items (criteria and components), only a general agreement in meaning (rather than actual labels) can be expected. General agreement is, in fact evident with, managerial behavior, teacher and teaching-related items holding significant positions in all 3 analyses. One exception is the item "The Physical Aspect of the School Plant" which placed much lower in the component ranking, while it figured rather prominently in the criterion ranking and the factor analysis.

Summary

Form B of the questionnaire has been deemed reliable, in view of the results of Cronbach's Alpha (reliability coefficient was 0.81612), and T-test performed on the answers of both groups of principals on a common ranking question.

The questionnaire was validated directly by respondents, 82.9% of whom indicated that they use the criteria contained in the questionnaire to judge the effectiveness of their own schools. The criterion ranking and factor analysis yielded comparable results. The component ranking, although necessarily in a more general way, also shows agreement with the above mentioned results.

Question A&B5-2: Are Both Forms Equivalent

Are both forms of the questionnaire equivalent, so that one could be used as a pre-test and the other as a post-test in a school effectiveness program?

The content of the two forms, A and B, was compared in order to assess the extent to which these questionnaires are parallel. This comparison was performed indirectly by comparing the results of the criterion ranking and the factor analysis (problem 2).

Criterion Ranking

Table 4.33 presents the top 12 criteria for each form

The comparison has been summarized in Table 4.34 Since the criteria in both forms were different, agreement was sought on general meaning.

Comments

There was a general agreement between the two forms on both content and order of the 12-13 top ranking criteria.

Factor Analysis

Table 4.35 shows the results of factor analysis of both forms. In both cases, the 5 factor analysis proved to be the most suitable, with respect to the 3 selection criteria mentioned in problem 2.

Comments

Complete agreement was noted in 4 groups: School plant and support services, The principal's managerial behavior, The teaching process, and Teacher outcomes. Partial agreement was noted in the remaining two groups. The group A principals distinguished School climate as student-related and teacher-related, whereas the group B principals combined the two into a general School climate category. The group B principals distinguished between The principal's managerial behavior and managerial and supervisory policies, where as the group A principals combined the two under a common heading Principal's managerial behavior.

TABLE 4.33 Comparison of Criterion Ranking, Form A & B

FORM A

Percentage Frequency	Criterion No.	Description
53.1	25	Positive reinforcement for students' efforts
40.7	21	Positive attitudes of teachers toward their work in school
40.0	10	Openness in staff-principal communications
35.8	29	Satisfactory duplicating and typing services available
34.6	14	Students feeling that teachers are trying to help them
32.1	12	Positive student attitudes
30.9	30	Good condition of school building
27.5	3	Principal's involvement in coordination of instructional programs
27.5	9	Clearly stated curricular objectives
26.2	4	High norms and academic standards of school
25.9	24	Staff assumes responsibility for teaching basic skills
22.5	8	Principal's awareness of what goes on in the school
22.5	1	Appropriate degree of decentralization of decision-making
21.0	20	Teachers' commitment to school goals
21.0	15	Communication between staff and students

FORM B

Percentage Frequency	Criterion No.	Description
50.7	8	Principal's ability to encourage individual participation
48.5	22	Teachers' goals are compatible with school goals
46.4	23	Instructional effectiveness
37.3	30	Pleasant staff room facilities
34.8	24	Student-centered teaching methods (sensitive to individual differences)
32.4	21	Teachers as role models for students
31.3	27	Adequacy of the janitorial service
27.9	12	Positive student attitudes
26.9	7	Principal's organizational abilities
26.5	1	Autonomy of teachers - professional freedom
25.4	28	Quiet work space for teachers
25.0	14	Teachers indicate expectations that all students can succeed
25.0	5	Staff development and inservice
23.5	13	School spirit - close, warm atmosphere

FORM A&B - TABLE 4.34

Summary of Criterion Ranking Comparison

Rank	Status	General Category
1	partial agreement	Encourage individual's work
2	agreement	Teachers attitudes
3	no agreement	
4	agreement	School plant and support services
5	agreement	Student-centered teaching approach
6	partial agreement	Encouraging positive student outlook
7	agreement	School plant and support services
8	no agreement	
9	partial agreement	Managerial behavior and policies
10	partial	Teacher authority and initiative
11	no agreement	
12	agreement	Teacher commitment
12A* 13B	agreement	Closeness between students and teachers

* two criteria were placed in the 12th place on form A. This second criterion from form A agrees with the thirteenth criterion of form B.

TABLE 4.35 COMPARISON OF PROBLEM 2
FACTOR ANALYSIS* RESULTS FOR FORM A AND B

School climate - student related	School plant and support services
Postive student attitudes	Adequacy of the janitorial services
Students permitted to hold positions of responsibility	Quiet work space for teachers
Students feeling that teachers are trying to help them	Sufficient number of parking spaces and plug-ins
Communication between staff and students	Pleasant staff room facilities
Sense of ownership	Good condition of school grounds
Teacher Outcomes	School climate (general)
Teachers' job satisfaction	Autonomy of teachers - professional freedom
Teachers' commitment to school goals	Fairness and expediency in allocating funds
Positive attitudes of teachers toward their work in school	Positive student attitudes
Positive reinforcement for students' efforts	School spirit - close, warm atmosphere
School plant and support services	Teacher outcomes
Spacious classrooms	School perceived by all involved as acting as a coherent whole
Adequate filing cabinets for all teachers	Teachers' satisfaction with principal
Satisfactory duplicating and typing services available	Punctuality of teachers (start and end lesson on time, etc.)
Good condition of school building	Teachers as role models for students
Good condition of equipment	
Principal's managerial behavior	The teaching process
Principal's awareness of what goes on in the school	Teachers indicate expectations that all students can succeed
Openness in staff-principal communications	Teachers concerned for emotional well-being of students
Effectiveness of supervisor of teachers	Teachers' goals are compatible with school goals.
	Student-centered teaching methods (sensitive to individual differences
School climate - teacher related	The principal's managerial behavior
Staff espirit de corps (group cohesiveness)	Time for teachers to plan together provided by principal
School perceived by all involved as acting as a coherent whole	Staff development and inservice
	Availability of appropriate instructional materials
	Principal's organizational abilities
	Principal's ability to encourage individual participation
	Academic progress of students (as a group) checked frequently by principal
	Teacher participation in non-compulsory activities
The teaching process	Managerial and supervisory policies
High norms and academic standards of school	Uniform academic standards throughout the school
Principal emphasizes achievement to students	System for monitoring school progress used
Most of the school day is spent on actual instruction	Instructional effectiveness
	Class time spent productively on task

* 5 Factors were used for both Form A and Form B

It should be noted that the T-test comparing the means and component ranking (problem 4) showed no significant differences between the two groups (Q.5-1).

Summary

There is a general agreement between the responses from forms A and B on both the criterion ranking and the factor analysis.

Lack of agreement in content and order was found in 3 of the 12-13 top ranking criteria.

In both cases, analysis using 5 factors was most suitable. There was a satisfactory general agreement amount the groups generated by the 5 factors. Complete agreement was noted in 4 of the 6 groups, and partial agreement was observed in the remaining two groups.

Based on these observations, it could be concluded that the two forms are reasonably parallel, and could be used for the purpose of pre-test and post-test.

COMPARISON OF FORM A AND B RESULTS

As stated at the beginning of this chapter, the results of form A and B will be compared where appropriate. The discussion in this section will follow this format: the results of problem 1 will be discussed fully; the treatment of the results of problem 2 (which was done to answer question 5-2) will be summaried; general trends arising out of problem 3 will be reviewed; and the comparison of criterion ranking from problem 4 (discussed in question 5-1) will be summarized. Finally, the responses to the two criteria common to both forms, will be reviewed.

Problem 1: Demographic Effects

To investigate whether demographic differences affect the responses of the principals.

The demographic characteristics addressed in this problem were: Type of jurisdiction, Type of system (public or separate), Type of community (urban or

rural), Grade level of school (elementary, junior high, senior high school), Type of education (Bachelor and Bachelor plus), and Gender.

Table 4.36 shows a summary of the results of the T-tests (and F-tests) performed on these categores in form A. The column "Area of Difference" gives in percentages the proportion of answers on which the "Differing Category" of principals gave answers significantly higher than alpha (0.05). Table 4.37 gives the same information for form B.

Comments

In form A, 3 demographic groups gave answers that were significantly higher at least 10% of the time. Two of these categories seem to encompass sufficiently different circumstances, that it was not entirely unanticipated to find the answers of those principals to differ from the rest. The two categories are "Urban" and "Female". Although without a follow-up investigation, the reasons for these differences cannot be dealt with, it is reasonable to assume that the urban principals would encounter somewhat different problems and thus develop a slightly different orientation from the rural principals. Likewise, the female principals face problems that are at least to some degree different from those the male principals encounter. In conversation with two of the female principals in the pilot group, it appears that in addition to the regular administrative load, there is a pressure on female administrators to "prove themselves". This expectation of performance results in an extremely busy schedule as one woman pointed out. The other female administrator also indicated that in addition to the pressure for accountability, she found her leadership abilities challenged by the task of encouraging cooperation and promoting teamwork. These points are collaborated by the results of form A, where the female principals gave a significantly higher rating (16%) to the supervisory functions and climate. The female principals in form B also gave a higher rating (6%) to climate.

The third differing category, Division, cannot be explained or even conjuctured further without a follow-up investigation.

In form B, only one group gave answers that were significantly higher more than 10% of the time. This category, "Urban", gave significantly higher answers in the area of "Principal as Facilitator", in 13% of the responses. In both forms there is some similarity in the response of these two categories, in that they both deal generally with the principal's managerial behavior.

TABLE 4.36

Comparison of Results - Form A.

Question	Characteristics	Significant Difference	No Significant Difference	Differing Category	Areas of Difference
1-1	Jurisdiction type	X		Division	15% - climate and resource related
1-2	System type		X	Separate	1% - homework
1-3	Community size	X		Urban	18% - teaching process, student and teacher involvement, resources
1-4	Grade level		X	Elementary	3% - emphasis on achievement, positive teacher attitudes
1-5	Education level		X	Bachelor	3% - curricular goals, positive student attitudes
1-6	Gender	X		Female	16% - supervisory functions, climate

Differences in 10% of the answers or more are judged as significant for the purpose of discussion.

TABLE 4.37

Comparison of Results - Form B.

Question	Characteristics	Significant Difference	No Significant Difference	Differing Category	Areas of Difference
1-1	Jurisdiction type		X	District	8% - teacher related
1-2	System type		X	Separate	5% - teacher related
1-3	Community size	X		Urban	13% - principal as a facilitator
1-4	Grade level		X	Contribution by each category	8% - teacher related
1-5	Education level		X	Bachelor+	5% - teacher related
1-6	Gender		X	Female	6% - climate

Differences in 10% of the answers or more are judged as significant for the purpose of discussion.

Summary

In general, the principals with different demographic characteristics did not differ to a great extent in their answers. In form A, the responses of only 3 demographic groups showed significantly higher rating more that 10% of the time. These groups were: Division, Urban, and Female. In form B, only the Urban group gave significantly higher rating more than 10% of the time.

Problem 2: Effectiveness Indicators

To identify and categorize the criteria that principals in Alberta consider to be major indicators of school effectivness.

Two analyses were performed in addressing this problem: criterion ranking and factor analysis. As mentioned in question 5-2, which dealt with the comparison of both forms on these analyses, only general meaning of the results can be examined, since the criteria in both forms were different.

The criterion ranking was shown to agree in the order of criteria as well as in general content, in all but 3 of the 12 or 13 top ranking criteria. In other words, there was 75% agreement on the criterion ranking between form A and B.

The factor analysis in both forms was most suitable using 5 factors. Complete agreement was noted in 4 of the 6 groups produced by the factor analysis. Partial agreement was observed in the remaining two groups. It could be summarized that this agreement on the factor analysis was greater than 67%.

Problem 3: School Performance

To obtain from the principals an assessment of their schools' performance on the above criteria.

Form A results indicated the following: highest performance was recorded on the climate-related criteria; managerial behavior rated in about the middle; the teaching process rated low; the criterion which was rated the lowest dealt with financial resources.

Form B results indicated that: the two criteria which received the highest rating were related to managerial behavior and teacher attitudes; the remainder of the top 1/3 of the criteria dealt with climate and the teaching process; the low rating criteria were related to working conditions and the principal's supervisory activities in the curricular area; the lowest rating criterion dealt with the provision of time for teachers to plan together.

Generally, both groups of principals gave a high performance rating to criteria dealing with school climate and managerial behavior.

Problem 4: Conceptual Framework

To obtain from the principals an evaluation of the components of the conceptual framework in terms of their impact on school effectiveness.

As was indicated in relation to problem 5, a T-test was performed, comparing the criterion ranking in both forms. No statistically significant differences in answers were revealed. Item k), Students' background and its influence on them, did receive a higher rating on form B resulting in a probability of 0.056, which is very close to alpha (0.05). While the order of items in the two forms is different, the means of the rating for each item were sufficiently similar, as seen by the T-test.

The two criteria that appeared in both forms are: School preceived by all involved as acting as coherent whole, and Positive student attitudes. Table 4.38 shows the absolute and percent frequency distribution of responses. It is noteworthy to mention that the responses were very similar on these two criteria.

Problem 5: Survey Instrument

To determine the validity and reliability of the survey instrument.

Form A and B of the questionnaire have already been compared in order to answer questions 5-1 and 5-2. Detailed description is provided above. Both forms of the questionnaire have been found satisfactory with respect to validity and reliability.

TABLE 4.38

Frequency Analysis of Common Criteria

School perceived by all involved as acting as a coherent whole.

Form	Frequency	PREREQUISITE 1	2	3	4	5	6	PERFORMANCE 1	2	3	4	5	6
A	Absolute	-	-	2	15	30	34	-	-	7	27	34	13
B	Absolute	-	-	1	7	30	32	-	1	8	19	29	13
A	%	-	-	2.5	18.5	37.0	42.0	-	-	8.6	33.3	42.0	16.0
B	%	-	-	1.4	10.0	42.9	45 7	-	1.4	11.4	27.1	41.4	18.6

Positive student attitudes.

Form	Frequency	PREREQUISITE 1	2	3	4	5	6	PERFORMANCE 1	2	3	4	5	6
A	Absolute	-	-	1	4	30	46	-	1	5	24	37	13
B	Absolute	-	-	-	2	25	43	-	-	2	21	34	13
A	%	-	-	1.2	4.9	37.0	56.8	-	1.2	6.3	30.0	46.2	16.2
B	%	-	-	-	2.9	35.7	61.4	-	-	2.9	30.0	48.6	18.6

Summary

Problem 1: Frequency and percent distribution was used to describe the demographic characteristics of the respondents. Content analysis was used to analyze questions which provided an "Other" category and required an explanation by the respondent. Content analysis was also planned for comments, which were requested via a personal note on the form letter. With the exception of one request for the results of this study, no comments relative to additional criteria were submitted. On the whole the principals did not differ greatly in their responses, regardless of their demographic characteristics. In form A, the principals from the Divisions gave a higher than average rating on 15% of their answers; the Urban principals on 18%; and the Female principals on 16% of their answers. In form B, only the Urban group gave a noteworthy percentage (13%) above average rated answers.

Problem 2: Frequency analysis of the criterion ranking was performed in order to get an overall ranking of the criteria. Factor analysis of the Prerequisite tiems in section B was used in order to determine the categories which were formed as a result of the principals' responses.

The two forms generally agreed in the content of the ranking, with teacher attitudes - related criteria placing high on both forms, and teacher commitment and student-teacher rapport related criteria placing in the 12th and 13th place on the forms.

Likewise on the factor analysis, both forms showed a significant similarity. In both cases, 5 factors were used in the analysis, and both yielded 6 groups of criteria. Complete agreement was noted in 4 of the groups: School plant and support services, The principal's managerial behavior, The teaching process, and Teacher outcomes. Partial agreement was noted in the remaining two groups.

Problem 3: Percent analysis was done on the preformance rating of the 31 given criteria. This was followed by a T-test comparing the ratings in the Prerequisite and Performance columns.

In form A, climate-related criteria registered the highest performance, while criteria relating to the teaching process were at the bottom of the scale. The lowest rated criterion dealt with financial resources.

In form B, top performance rating was given to the following two criteria: Principal's organizational abilities, and Teachers' goals are compatible with school goals. The lowest rating was given to the performance on the criterion Time for teachers to plan together provided by principal.

In both forms, the T-test comparing the Prerequisite and Performance rating of the criteria, revealed significant differences on majority of the criteria, with the Prerequisite column receiving higher ratings.

Problem 4: The ranking of the components was subjected to a frequency analysis which yielded a mean value for each of the 11 components. The means were then ranked to yield a common rank order for each of the two groups of respondents.

In form A, the top 3 items were: Managerial behavior, School climate (teacher-related), and Teacher characteristics. The last two items were: The physical aspects of the school plant and Decline in enrollments.

Problem 5: Cronbach's Alpha was used to check the reliability of both forms of the questionnaire. A T-test was performed on the component ranking in section C of both forms of the questionnaire. The two forms were then compared on the factor analysis and criterion ranking results.

Both forms of the questionnaire were deemed reliable, in view of the results of Cronbach's Alpha (reliability coefficient for form A was 0.81344, for form B it was 0.81612), and the T-test performed on the answers of both groups of principals on common ranking questions.

The questionnaires were validated directly by the respondents (81.5% in form A, 82.9% in form B), who indicated that they use the criteria contained in the questionnaire to judge the effectiveness of their own schools. The criterion ranking and factor analysis yielded comparable results. The component ranking, although necessarily in a more general way, also showed agreement with the above mentioned results.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this concluding chapter, the summary of the research is presented, followed by the conclusions and recommendations. The summary section of this chapter contains an overview of the purpose, methodology, data analysis and findings. Forms A and B are treated in tandem in the presentation of findings. The conclusions are derived from the combined findings of form A and B. Recommendations for further study, and implications for school improvement programs are discussed at the end of this chapter.

Summary

In recent years, schools have begun to experience an increasing pressure for accountability. This trend stimulated a new wave of research in the area of school effectiveness. One of the significant results of these recent studies was the conclusion that using student achievement exclusively as a criterion of school effectiveness is inadequate in view of the complexity of the school as an organization. Instead, the researchers indicate that the processes within the school are the key to the explanation of school effectiveness. Two processes that are receiving significant recognition in current literature are The principal's leadership and managerial behavior, and The school climate.

Purpose

The purpose of this exploratory descriptive study was to identify the criteria that selected school principals in Alberta consider to be major indicators of school effectiveness.

Objectives and Research Problems

The central purpose of the study was operationalized through the following three objectives:

1. To survey the criteria used by principals to assess the effectiveness of schools in Alberta.
2. To determine whether the theoretical framework of Steers (as adapted by Bohac) is appropriate to describe the organizational processes related to effectiveness in present-day schools in Alberta.
3. To develop a questionnaire and to test its adequacy and appropriateness for the investigation relative to objective 1 and 2.

The objectives of the study led to the following research problems:

Objective 1 Criteria of Effectiveness:

Problem 1: Do demographic differences affect the responses of the principals?

Problem 2: Which criteria do principals in Alberta consider to be major indicators of school effectiveness?

Problem 3: How do principals assess their schools' performance on the above criteria?

Objective 2 Theoretical Framework:

Problem 4: How do principals evaluate the components of the conceptual framework in terms of their impact on school effectiveness?

Objective 3 The Questionnaire:

Problem 5: Is the survey instrument valid and reliable?

Methodology

The design of this exploratory, descriptive study was that of a cross-sectional survey, using a questionnaire designed on the basis of a conceptual framework adapted from Steers (1972), and on effectiveness criteria collected from literature. Two forms of the questionnaire were necessary, due to the large number of criteria intended for testing. With the exception of the different list of criteria, the questionnaires were identical in every other respect, each consisting of three sections (A) Demographic Information, (B) Criterion Rating, and (C) Ranking of Criteria and Areas of Impact on School Improvement. Four types of data were sought from the two groups of principals:

demographic information, rating and ranking of the criteria provides, self-report of school performance on the provided criteria, and evaluation of the components of the conceptual framework.

The questionnaires have been subjected to several pilot runs before their finalization. The subjects were selected by a quota sampling approval and cooperation of the school jurisdictions involved in the study. A total of 200 principals received the questionnaire. The return rate was 72%.

Data Analysis

The data obtained from the questionnaire were processed using the Statistical Package for the Social Sciences (Nie et al., 1975). The following analyses were used in this study:

Problem 1 Demographic Effects: Frequency and percent distribution was used to describe the demographic characteristics of the respondents. Content analysis was also planned for comments, which were requested via a personal note on the form letter. With one exception of one request for the results of this study, no comments relative to the criteria were submitted.

Problem 2 Major Effectiveness Indicators: Frequency analysis of the criterion ranking was performed in order to get an overall ranking of the criteria. Factor analysis of the Prerequisite items in section B was used in order to determine the categories which were formed as a result of the principals' responses.

Problem 3 School Performance Assessment: Percent analysis was done on the performance rating of the 31 given criteria. This was followed by a T-test comparing the ratings in the Prerequisite and Performance columns.

Problem 4 Conceptual Framework: The ranking of the components was subjected to a frequency analysis which yielded a mean value for each of the 11 components. The means were then ranked, to yield a common rank order for form A respondents and form B respondents.

Problem 5 Survey Instrument: Cronbach's Alpha was used to check the reliability of both forms of the questionnaire. A T-test was performed on the component ranking in section C of both forms of the questionnaire. The two forms were then compared on the factor analysis and crterion ranking results.

Findings

Influence of Demographic Characteristics

Form A:

The principals belonging to different demographic groups generally gave similar responses. The three groups which gave significantly higher rating (alpha 0.05) to a fraction of the criteria greater than 10% of the total number rated, were: Division (15% of the answers, on climate and resource related criteria); Urban (18% of the answers, on criteria related to teaching process, student and teacher involvement, and availability of resources); and Female (16% of the answers, on criteria related to supervisory functions and climate). The higher rating ascribed to the above criteria indicates that the principals ascribed higher significant to the areas described by those criteria.

Form B:

Only one group gave a significantly higher rating to more than 10% of the criteria: Urban (13% of the answers, on criteria related to the behavior of the principal as a facilitator).

Identification of Criteria that Could Serve as Indicators of Effectiveness

Form A:

Criterion ranking gave highest priority to student and teacher-perceived climate, followed by school plant factors, the principal's managerial behavior and what could be loosely termed as teacher outcomes. Content analysis of the 6 groupings of criteria which were yielded by the 5 factor analysis, gave rise to the following 6 dimensions of effectiveness as perceived by the principals: School climate - student related, Teacher outcomes, School plant and support services, Principal's managerial behavior, School climate - teacher related, and Teaching process.

Form B:

The content and order of the criterion ranking could be subsumed under the following general headings: Principal's ability to encourage positive attitudes, was followed by Positive attitudes of teachers, The teaching process, School plant and support services, Positive student attitudes, The principal's managerial skills, and assorted criteria which could be described generally as teacher-related. School spirit (atmosphere) ranked last among the top 13 criteria.

The 6 groups defined by the 5 factor analysis were described by the following identifying headings: School plant and support services, School climate (general), Teacher outcomes, The teaching process, The principal's managerial behavior, and Managerial and supervisory policies.

Assessment of School Performance on the Given Criteria

Form A:

The ratings of the 31 criteria in the Performance column were ranked. Since some criteria recieved the same rating, the ranking order was from 1 (highest performance) to 28 (lowest performance). It is assumed that the lower the performance rating is, the higher the need for improvement. Climate related criteria scored the highest, while criteria relating to teaching process were at the bottom of the scale. The lowest rated criterion dealt with financial resources.

Comparison of the ratings of importance as opposed to performance of the criteria indicated that most criteria received a significantly lower rating on performance. Of the 4 criteria on which rating did not differ significantly, 3 were school-related.

Form B:

Top performance rating was given by the principals to the following two criteria: principal's organizational abilities and teachers' goals are compatible with school goals. The lowest rating was given to the performance on the criterion time for teachers to plan together provided by principals. In general, school performed well in the areas of Managerial behavior, Teacher attitudes, Student and teacher related climate, and The teaching process. The schools performed poorly in the areas of the principal's educational leadership and working conditions for teachers.

Comparisons of the ratings of the criteria on their importance and performance indicates that most criteria received a significantly lower performance rating. The 4 criteria which received a similar rating on their

importance as well as performance, fall into two general categories: Teacher-related and school plant, and Service-related.

Evaluation of the Components of the Conceptual Framework

Form A:

Question 4 in section C of the questionnaire involved the ranking of the components of the theoretical framework, in terms of their impact on school improvement. The top 3 items were: School climate (teacher-related), Teacher outcomes, and School climate (student related). The last two items were: Students' background and its influence on them, and Decline in enrollments.

Form B:

The top 3 items in the component ranking were: Managerial behavior, School climate (teacher-related), and Teacher characteristics. The last two items were: The physical aspects of the school plant, and Decline in enrollments.

Validity and Reliability of the Survey Instrument

Form A:

Form A of the questionnaire has been deemed reliable, in view of the results of Cronbach's Alpha (reliability coefficient was 0.81344), and T-test performed on the answers of both groups of principals on a common ranking question (problem 4).

The questionnaire was validated directly by the respondents, 81.5% of whom indicated that they use the criteria contained in the questionnaire to judge the effectiveness of their own schools. The criterion ranking and factor analysis

yielded comparable results. The component ranking, although necessarily in a more general way, also showed agreement with the above mentioned results.

Form B:

Form B of the questionnaire has been deemed reliable, in view of the results of Cronbach's Alpha (reliability coefficient was 0.81612), and T-test performed on the answers of both groups of principals on a common ranking question.

The questionnaire was validated directly by the respondents, 82.9% of whom indicated that they use the criteria contained in the questionnaire to judge

the effectiveness of their own schools. The criterion ranking and factor analysis yielded comparable results. The component ranking also shows general agreement with the above.

Both Forms:

There was a general agreement between the responses from forms A and B on both the criterion ranking and the factor analysis.

Lack of agreement in content and order was found in 3 of the 12 or 13 top ranking criteria. In both cases, factor analysis using 5 factors was most suitable. There was a satisfactory general agreement among the groups of criteria generated by the 5 factors. Complete agreement was noted in 4 of the 6 groups, and partial agreement was observed in the remaining two groups.

Based on these observations, it could be concluded that the two forms are reasonably parallel, and could be used for the purpose of pre-test and post-test.

Synopsis

The following points were derived from the findings of the study. Their numbers correspond to the problem numbers.

1. In general, no significant differences in criterion rating were noted in conjunction with different demographic characteristics. The only group that gave higher ratings on more than 10% of the criteria on both form A and B of the questionnaire was the Urban group.
2. The criteria that were considered to most important for the school effectiveness, were related to Student and teacher-perceived climate, followed by The principal's managerial behavior, The teachers outcomes, The teaching process, and The school plant and support services.
3. In assessing the performance of their own schools on the given criteria, the principals reported good performance on climate, managerial behavior of principals, and on teacher attitudes. Low performance was registered on financial resources, working conditions for teachers, and the principals' educational leadership. The majority of the criteria received a rating that was significantly higher on the importance than on the performance aspect.
4. The evaluation of the components of the theoretical framework indicated that school climate, managerial behavior of the principal, and teacher outcomes and characteristics were perceived as most important, while

student background, decline in enrollments, and the physical aspects of the school plant were judged to have the least impact on school effectiveness.

5. The reliability and validity of the questionnaires were judged to be satisfactory. Cronbach's Alpha reliability coefficients were 0.813 for form A and 0.816 for form B. The criteria were reportedly used to assess effectiveness by 81.5% of the form A respondents and 82.9% of the form B respondents. The results of the criterion ranking and the factor analysis for both forms were in general agreement.

Conclusions

1. School climate, the principal's leadership and managerial abilities, and the role of the teacher in the teaching process, are the elements of the school organization that were judged by the principals to be key factors in school effectiveness. This conclusion is supported by the fact that the principals rated these three elements the highest both in the criterion rating and in the framework component rating.
2. School climate, both student - and teacher-perceived was given a great degree of importance by the principals. It appears in the top ranks of both the criterion and the framework component rating. In addition, the principals reported that their schools performed well on the climate criterion. It would appear that the principals are aware of a relationship between employee perceptions, attitudes and performance.
3. Coherence and regularity in programs, norms, standards, and rules, consistently received a high rating as important criteria of effectiveness.
4. Student background and declining enrollments were not judged by the principals to be significant factors in relation to school effectiveness. In the framework component rating these items were judged to have the least impact on school effectiveness.
5. Forms A and B of the questionnaire were found to be sufficiently valid and reliable as to be used in a pre-test, post-test situation.

The above conclusions were derived from the five research problems which were formulated to accomplish the three research objectives.

The objectives of this study have been achieved, because the effectiveness criteria used by principals have been described, the theoretical framework has been assessed, and the questionnaire has been validated.

Recommendations

While the data from this study provide significant findings, it must be noted that the study had limitations in terms of generalizability. The following recommendations should, therefore, be considered with that context:

1. The questionnaire should be administered to a stratified random sample of the total principal population in Alberta, in order to obtain data generalizable to the province.
2. The questionnaire should also be administered to a stratified random sample of teachers, superintendents, and school trustees. The results would provide a synopsis of the expectations that various stakeholder groups place on schools. Such information could do much to alleviate conflicts which presently exist among these groups as a result of a lack of communications.
3. The questionnaire might be administered to a number of selected effective schools and an equal number of schools that are judged to be ineffective or in need of improvement. This should provide information regarding the differences between the processes within effective and ineffective schools. The schools might be selected on the basis of evaluations by the Regional Office of Education, the superintendent, school staff, and parental input.
4. The results of the criterion ranking and the factor analysis can be used to construct a checklist for principals wishing to monitor and improve the effectiveness of their school.

In terms of direct application from the results of this questionnaire, the following could be recommended, provided that the results of this study are confirmed with a survey using a random sample:

1. School effectiveness programs might concentrate on the areas of curricular coordination throughout the school, including within grade levels as well as across grade levels. Emphasis should be on involving the principal in the role of coordinator and educational leader.

Attention should also be given to working conditions of teachers. This implies the management of their environment in such a way as to facilitate work preparation, for example, arranging for teachers to have time to plan together. Some schools performed very poorly in this area, as reported by the form B principals. This aspect is related to the curricular coordination discussed above, and hence should be addressed at the same time. The group A principals also suggested that the performance on the teaching process criteria was low. The consideration of the teaching process could also be carried out in conjunction with the curricular aspects.

2. The training of principals should provide good background in the areas of human resource management, organizational climate, psychology, and curriculum theory. In discussion with the pilot study principals, it became apparent that the training for principals should be done at the Masters level, since the training at the Bachelor level cannot deal with the above topics in the required depth.

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APPENDIX A

FORM A AND B OF THE QUESTIONNAIRE

FACULTY OF EDUCATION
DEPARTMENT OF EDUCATIONAL ADMINISTRATION

THE UNIVERSITY OF ALBERTA
EDMONTON, CANADA
T6G 2G5

OFFICE USE ONLY

SECTION A (FORM A)

1. Which one of the following best describes your position at the present time ?

   1) Trustee ____ 2) Superintendent ____ 3) Principal____ 4) Teacher____ 5) Vice-principal____ 5

2. Indicate the type of school jurisdiction you are associated with :

   1) District ____ 2) Division ____ 3) County ____ 6

3. Your system is :

   1) Public____ 2) Catholic Separate____ 3) Protestant Separate____ 4) Other:_____ 7

4. Your school is located in:

   1) Large city (over 50 000)____ 2) City____ 3) Town____ 4) Village____ 8

5. Indicate the type of school at which you teach/administer.

   1) Elementary School (gr 1-6) ____ 4) Jr High-High School (gr 7-12) ____ 9

   2) Elementary-Jr High (gr 1-9) ____ 5) High School (gr 10 - 12) _____

   3) Junior High School (gr 7-9) ____ 6) Other (specify grades or specialization)

   _____

5. What is the highest level of education you have attained?

   1) High school _____ 7) 2 or more bachelors _____ 10,11

   2) 1 year of university or equivalent _____ 8) Masters degree _____

   3) 2 years of university or equivalent_____ 9) 2 Masters degrees _____

   4) 3 years of university or equivalent ____ 10) Doctorate _____

   5) Bachelor of Education _____ 11) Other:_____

   6) Bachelor and Teaching Diploma _____ (Specify)

7. Please indicate by a check mark : You are Female_____ Male ____ 12

ALL of the following criteria contribute to school effectiveness. Which criteria contribute the MOST, and which are LESS important ? Please use the full range of numbers from 1-6, CIRCLE your answer. To what degree are these criteria actually performed in your school ? Indicate the degree by CIRCLING one number in the PERFORMANCE column.	Low Degree PREREQUISITE FOR EFFECTIVENESS High Degree (ESSENTIAL)	Low Degree PERFORMANCE High Degree
1. Appropriate degree of decentralization of decision-making	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
2. Provision for contact and consultation with professional colleagues	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
3. Principal's involvement in coordination of instructional programs	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
4. High norms and academic standards of school	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
5. Uniform standards of discipline throughout the school	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
6. Availability of financial resources	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
7. Principal emphasizes achievement to students	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
8. Principal's awareness of what goes on in the school	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
9. Clearly stated curricular goals and objectives	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
10. Openness in staff-principal communications	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
11. Effectiveness of supervisor of teachers	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
12. Positive student attitudes	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
13. Students permitted to hold positions of responsibility	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
14. Students feeling that teachers are trying to help them	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
15. Communication between staff and students	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
16. Sense of ownership that students have about the school	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6

ALL of the following criteria contribute to school effectiveness. Which criteria contribute the MOST, and which are LESS important ? Please use the full range of numbers from 1-6. CIRCLE your answer. To what degree are these criteria actually performed in your school ? Indicate the degree by CIRCLING one number in the PERFORMANCE column.	Low Degree PREREQUISITE FOR EFFECTIVENESS High Degree (ESSENTIAL)	Low Degree PERFORMANCE High Degree
17.Staff esprit de corps (group cohesiveness)	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
18.School perceived by all involved as acting as a coherent whole	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
19.Teachers' job satisfaction	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
20.Teachers' commitment to school goals	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
21.Positive attitudes of teachers toward their work in school ...	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
22.Innovative teaching	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
23.Most of the school day is spent on actual instruction	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
24.Staff assumes responsibility for teaching basic skills	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
25.Positive reinforcement for students' efforts	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
26.Homework assigned and checked regularly	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
27.Spacious classrooms.....	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
28.Adequate filing cabinets for all teachers	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
29.Satisfactory duplicating and typing services available	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
30.Good condition of school building	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6
31.Good condition of equipment	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6

SECTION C

1. Out of the criteria listed on the 2 previous pages, select ONE that you feel is MOST important, from EACH group.

Group 1 (criteria 1-6) ....._____ 5

Group 2 (criteria 7-11) ....._____ 6

Group 3 (criteria 12-16) ....._____ 7

Group 4 (criteria 17-21) ....._____ 8

Group 5 (criteria 22-26) ....._____ 9

Group 6 (criteria 27-31) ....._____ 10

2. Do you actually use the criteria above to gauge the effectiveness of your own school? YES_____ NO_____ 11

3. To what extent do you think schools are improvable? NOT AT ALL____ SOMEWHAT____ TO A CONSIDERABLE EXTENT_____ 12

4. WHICH ITEMS HAVE THE MOST IMPACT ON SCHOOL IMPROVEMENT ?

Rank the items from 11 (highest) to 1 (lowest); you may use the same number more than once if neceaasry :

a) STRUCTURE OF THE SCHOOL ORGANIZATION (job description - who does what when).....____ 13,14

b) MANAGERIAL POLICIES (rules and policies within the school).....____ 15,16

c) MANAGERIAL BEHAVIOR (principal's actions as perceived by the rest of the school).....____ 17,18

d) TEACHER CHARACTERISTICS (personal traits, aspirations, attitudes).....____ 19,20

e) SCHOOL CLIMATE (as perceived by students).....____ 21,22

f) SCHOOL CLIMATE (as perceived by teachers).....____ 23,24

g) TEACHER OUTCOMES (how teachers act and perform due to their feelings about, and reactions to the school)....____ 25,26

h) THE TEACHING PROCESS (choice of teaching methods and instructional materials).....____ 27,28

i) THE PHYSICAL ASPECTS OF THE SCHOOL PLANT .....____ 29,30

j) DECLINE IN ENROLMENTS .....____ 31,32

k) STUDENTS' BACKGROUND & ITS INFLUENCE ON THEM (family, socio-economic, educational level of parents, etc.)...____ 33,34

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SECTION A (FORM B)

1. Which one of the following best describes your position at the present time ?

   1) Trustee ____ 2) Superintendent ____ 3) Principal____ 4) Teacher____ 5) Vice-principal____ 5

2. Indicate the type of school jurisdiction you are associated with :

   1) District ____ 2) Division ____ 3) County ____ 6

3. Your system is :

   1) Public____ 2) Catholic Separate____ 3) Protestant Separate____ 4) Other:_____ 7

4. Your school is located in:

   1) Large city (over 50 000)____ 2) City____ 3) Town____ 4) Village____ 8

5. Indicate the type of school at which you teach/administer.

   1) Elementary School (gr 1-6) ____ 4) Jr High-High School (gr 7-12) ____ 9

   2) Elementary-Jr High (gr 1-9) ____ 5) High School (gr 10 - 12)

   3) Junior High School (gr 7-9) ____ 6) Other (specify grades or specialization)

   _____ ___

6. What is the highest level of education you have attained? 10,11

   1) High school _____ 7) 2 or more bachelors _____

   2) 1 year of university or equivalent _____ 8) Masters degree _____

   3) 2 years of university or equivalent_____ 9) 2 Masters degrees _____

   4) 3 years of university or equivalent ____ 10) Doctorate _____

   5) Bachelor of Education _____ 11) Other:_____

   6) Bachelor and Teaching Diploma _____ (Specify)

7. Please indicate by a check mark : You are Female_____ Male ____ 12

ALL of the following criteria contribute to school effectiveness. Which criteria contribute the MOST, and which are LESS important ? Please use the full range of numbers from 1-6, CIRCLE your answer. To what degree are these criteria actually performed in your school ? Indicate the degree by CIRCLING one number in the PERFORMANCE column.	PREREQUISITE FOR EFFECTIVENESS (ESSENTIAL) Low Degree ... High Degree	PERFORMANCE Low Degree ... High Degree	OFFICE USE ONLY
1. Autonomy of teachers - professional freedom	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	13,14
2. Reduced number of students per teacher (small class size).....	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	15,16
3. Time for teachers to plan together provided by principal	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	17,18
4. Uniform academic standards throughout the school	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	19,20
5. Staff development and inservice	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	21,22
6. Availability of appropriate instructional materials	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	23,24
7. Principal's organizational abilities	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	25,26
8. Principal's ability to encourage individual participation	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	27,28
9. Academic progress of students (as a group) checked frequently by principal	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	29,30
10. Fairness and expediency in allocating funds	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	31,32
11. System for monitoring school progress used	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	33,34
12. Positive student attitudes	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	35,36
13. School spirit - close, warm atmosphere	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	37,38
14. Teachers indicate expectations that all students can succeed..	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	39,40
15. Teachers concerned for emotional well-being of students	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	41,42
16. School perceived by all involved as acting as a coherent whole	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	43,44
17. Parental contact and interest	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	45,46

ALL of the following criteria contribute to school effectiveness. Which criteria contribute the MOST, and which are LESS important ? Please use the full range of numbers from 1-6. CIRCLE your answer. To what degree are these criteria actually performed in your school ? Indicate the degree by CIRCLING one number in the PERFORMANCE column.	Low Degree PREREQUISITE FOR EFFECTIVENESS (ESSENTIAL) High Degree	Low Degree PERFORMANCE High Degree	OFFICE USE ONLY
18.Teachers' satisfaction with principal	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	47,48
19.Punctuality of teachers (start & end lessons on time, etc.)....	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	49,50
20.Teacher participation in non-compulsory activities	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	51,52
21.Teachers as role models for students	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	53,54
22.Teachers' goals are compatible with school goals	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	55,56
23.Instructional effectiveness	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	57,58
24.Student-centered teaching methods (sensitive to individual differences)	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	59,60
25.Pupil progress frequently monitored by teachers	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	61,62
26.Class time spent productively on task	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	63,64
27.Adequacy of the janitorial service	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	65,66
28.Quiet work space for teachers	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	67,68
29.Sufficient number of parking spaces and plug-ins	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	69,70
30.Pleasant staff room facilities	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	71,72
31.Good condition of school grounds	1 . 2 . 3 . 4 . 5 . 6	1 . 2 . 3 . 4 . 5 . 6	73,74

SECTION C

OFFICE USE ONLY

1. **Out of the criteria listed on the 2 previous pages, select ONE that you feel is MOST important, from EACH group.**

Group 1 (criteria 1-6) .....____ 5

Group 2 (criteria 7-11) .....____ 6

Group 3 (criteria 12-17) .....____ 7

Group 4 (criteria 18-22) .....____ 8

Group 5 (criteria 23-26) .....____ 9

Group 6 (criteria 27-31) .....____ 10

2. Do you actually use the criteria above to gauge the effectiveness of your own school? YES_____ NO_____ 11

3. To what extent do you think schools are improvable? NOT AT ALL___ SOMEWHAT___ TO A CONSIDERABLE EXTENT_____ 12

4. WHICH ITEMS HAVE THE MOST IMPACT ON SCHOOL IMPROVEMENT ?

Rank the items from 11 (highest) to 1 (lowest); you may use the same number more than once if neceaasry :

a) STRUCTURE OF THE SCHOOL ORGANIZATION (job description - who does what when).....___ 13,14

b) MANAGERIAL POLICIES (rules and policies within the school).....___ 15,16

c) MANAGERIAL BEHAVIOR (principal's actions as perceived by the rest of the school).....___ 17,18

d) TEACHER CHARACTERISTICS (personal traits, aspirations, attitudes).....___ 19,20

e) SCHOOL CLIMATE (as perceived by students).....___ 21,22

f) SCHOOL CLIMATE (as perceived by teachers).....___ 23,24

g) TEACHER OUTCOMES (how teachers act and perform due to their feelings about, and reactions to the school)....___ 25,26

h) THE TEACHING PROCESS (choice of teaching methods and instructional materials).....___ 27,28

i) THE PHYSICAL ASPECTS OF THE SCHOOL PLANT .....___ 29,30

j) DECLINE IN ENROLMENTS .....___ 31,32

k) STUDENTS' BACKGROUND & ITS INFLUENCE ON THEM (family, socio-economic, educational level of parents, etc.)...___ 33,34

APPENDIX B

COVERING LETTER FOR QUESTIONNAIRE

FACULTY OF EDUCATION
DEPARTMENT OF EDUCATIONAL ADMINISTRATION

THE UNIVERSITY OF ALBERTA
EDMONTON, CANADA
T6G 2G5

WHAT MAKES A GOOD SCHOOL ?

The current emphasis on accountability has prompted increased activity in the area of both teacher and school evaluation. While much comprehensive work has been done in the area of teacher effectiveness, educators are in disagreement as to how to evaluate schools.

Too often, a single criterion - student scores on standardized achievement tests - is the basis on which a school is judged as effective or not effective. This type of judgment may lead to generalizations that are neither fair, nor helpful.

It is the endeavor of this research to have the selected criteria from literature judged by you, the practitioners. The final objective of this work is to produce a checklist of operational criteria that can be used in evaluating a school. This research rests on three assumptions:

1) That certain conditions or criteria can be isolated which, when employed, will lead to school effectiveness.
2) That practitioners will select criteria that are realistic, representative and fair.
3) That a checklist is more helpful than a judgment based on one criterion.

I am aware that an administrator's schedule is very busy, however I would appreciate it if you could spend a few moments to complete this questionnaire and assist me in my research. In order to satisfy the validity of the research design, only completed forms can be processed, so please answer every question.

Thank you for your cooperation

Sincerely

Veronika Bohac

APPENDIX C

FORM A: F-TEST

JURISDICTION TYPE

TABLE C.1
FORM A: F-TEST JURISDICTION TYPE

Criterion	Group 1 $\bar{x}$	Group 1 sd	Group 2 $\bar{x}$	Group 2 sd	Group 3 $\bar{x}$	Group 3 sd	F Ratio	Groups Significant Different at 0.1000 Level
1	4.8810	0.6325	5.0000	0.7385	4.4231	1.1721	2.883	-
1	4.5238	0.8036	4.8333	0.9374	4.1923	0.8953	2.540	-
2	5.1463	0.7267	4.5833	1.1645	5.1481	0.7181	2.524	-
2	4.4500	1.0610	4.4167	1.0836	4.5556	1.3107	0.089	-
3	5.1190	0.7055	4.6667	1.0731	5.0741	1.0350	1.258	-
3	4.6829	0.7563	4.3636	1.2863	4.5926	1.1522	0.459	-
4	5.0000	0.7963	4.4545	1.1282	5.0741	0.8286	2.192	-
4	4.5714	0.6302	4.3636	0.6742	4.5556	0.9740	0.330	-
5	5.2143	1.0249	4.6667	0.9847	5.3333	0.8320	2.089	-
5	4.5714	0.8306	4.3333	1.1547	4.7407	0.9842	0.812	-
6	4.9048	0.9579	4.0000	0.8528	4.3704	1.0795	4.952	* 1+2, 1+3
6	3.9524	0.9358	4.0833	1.1645	3.6667	1.0000	0.987	-
7	5.0238	0.8111	4.5000	0.9045	4.7407	1.0952	1.777	-
7	4.4524	0.8323	4.5000	0.9045	4.2593	1.1298	0.424	-
8	5.5714	0.6302	5.3333	0.6513	5.8889	0.3203	4.951	* 3+2, 3+1
8	5.0238	0.8407	5.0833	0.7930	5.1481	1.1335	0.144	-
9	5.3415	0.6561	4.9167	1.0836	5.4231	0.8566	1.745	-
9	4.7250	0.6789	4.4167	1.2401	4.4615	0.9047	1.029	-
10	5.6905	0.6044	5.2500	0.7538	5.7407	0.5257	3.028	# 1+2, 3+2
10	5.2619	0.7670	4.6667	0.7785	5.4815	0.5798	5.462	* 1+2, 3+2
11	5.1250	0.8530	4.3333	1.2309	4.9259	0.9971	3.104	* 1+2
11	4.2000	0.7910	3.7500	1.2881	4.1481	1.1335	0.958	-
12	5.5476	0.5500	5.0000	0.9535	5.6296	0.5649	4.504	* 1+2, 3+2
12	4.6341	0.7667	4.6667	1.1547	4.8148	0.8787	0.361	-
13	4.5610	0.9759	3.9167	0.9003	4.4444	1.3107	1.625	-
13	4.1250	1.0667	3.5833	0.6686	3.8148	1.1779	1.477	-
14	5.5714	0.7373	5.5000	0.9045	5.6667	0.6794	0.243	-
14	4.7619	0.6917	4.9167	1.0836	4.8889	0.8916	0.277	-
15	5.5476	0.6325	5.2500	0.8660	5.5556	0.5064	1.153	-
15	4.7857	0.5646	5.0000	0.6325	4.7778	0.7511	0.545	-
16	5.3571	0.7908	4.8333	1.0299	5.2963	0.9121	1.731	-
16	4.4762	0.7404	4.5455	1.1282	4.1481	1.1670	1.166	-

TABLE C.1 Cont'd
FORM A: F-TEST JURISDICTION TYPE

Criterion	Group 1 $\bar{x}$	Group 1 sd	Group 2 x	Group 2 sd	Group 3 x	Group 3 sd	F Ratio	Groups Significant Different at 0.1000 Level
17	5.3095	0.8111	5.0833	0.9003	5.4074	0.7971	0.649	-
17	4.7381	0.8281	4.6667	0.6513	4.8519	0.9488	0.243	-
18	5.1667	0.8811	4.7500	0.8660	5.4074	0.6360	2.790	// 3+2
18	4.6190	0.8540	4.5000	0.7977	4.7778	0.9816	0.508	-
19	5.6429	0.5768	5.0000	0.7385	5.6296	0.4921	6.254	* 3+2, 1+2
19	4.8333	0.8239	4.9167	0.6686	4.7037	0.8689	0.343	-
20	5.5952	0.6648	5.1667	0.8348	5.6538	0.5616	2.435	-
20	4.7857	0.7820	4.6667	0.6513	4.5385	0.7606	0.860	-
21	5.6905	0.5626	5.3333	0.7785	5.6667	0.4804	1.895	-
21	5.0244	0.6119	5.2500	0.6215	4.8462	0.6748	1.725	-
22	4.7073	0.7157	4.0833	1.1645	4.5185	1.0141	2.264	-
22	4.2683	0.7080	4.3333	0.6513	3.8889	1.0127	2.111	-
23	4.8537	0.8234	3.5833	0.9003	5.0000	0.8771	12.606	* 1+2, 3+2
23	4.5366	0.7449	4.0833	0.9962	4.7778	0.8473	2.990	// 3+2
24	5.4634	0.6744	6.5833	0.6686	5.5185	0.6427	0.168	-
24	4.9268	0.8482	5.4167	0.6686	5.1481	0.9074	1.708	-
25	5.0000	0.6717	5.0833	0.7930	5.6296	0.5649	2.903	// 3+2
25	4.7561	0.7342	4.5000	0.9045	4.6667	0.8320	0.497	-
26	4.9024	1.1791	4.4167	1.5050	4.3333	1.3867	1.758	-
26	4.4878	0.8978	4.0833	1.4434	3.8889	1.1547	2.624	-
27	4.3571	1.0051	3.2500	1.1382	4.0370	1.2552	4.462	* 1+2
27	4.1429	1.0948	3.7500	1.2881	3.9630	1.4000	0.526	-
28	3.7143	1.4191	3.0000	1.4142	3.2963	1.4627	1.454	-
28	4.1220	1.4177	4.1667	1.7495	4.5556	1.3397	0.773	-
29	4.5952	1.1699	3.8333	1.3371	4.4815	1.2207	1.864	-
29	4.8810	1.1088	4.9167	1.1645	5.1481	0.9074	0.549	-
30	4.8333	0.8530	3.5000	1.1677	4.5185	1.1887	7.936	* 3+2, 1+2
30	4.9762	0.8407	3.8333	1.2673	4.7407	1.2276	5.542	* 3+2, 1+2
31	4.8333	0.7938	4.5000	1.1677	4.7778	0.8006	0.708	-
31	4.8095	0.9432	4.5833	0.6686	4.8889	0.9337	0.475	-

Group 1 = District N = 42
Group 2 = Division N = 12
Group 3 = County N = 27

Top line for each criterion indicates the Prerequisite column.
Bottom line for each criterion indicates the Performance column.

* $p \leq 0.05$ // $p > 0.05$ but close enough to 0.05 to be noted.

APPENDIX D

FORM A: T-TEST

TYPE OF SYSTEM

Table D.1

Form A: t-test - Type of System

	Prerequisite for Effectiveness					Performance				
	Public (N=58)		Separate (N=23)			Public (N=58)		Separate (N=23)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
1. Appropriate degree of decentralization of decision-making	4.70	0.94	4.87	0.69	-0.88	4.44	0.89	4.52	0.85	-0.39
2. Provision for contact and consultation with professional colleagues	5.09	0.82	5.00	0.82	0.42	4.58	1.13	4.23	1.15	1.22
3. Principal's involvement in coordination of instructional programs	5.03	0.97	5.04	0.64	-0.05	4.59	1.04	4.67	0.80	-0.36
4. High norms and academic standards of school	4.97	0.94	4.91	0.68	0.30	4.55	0.82	4.50	0.60	0.31
5. Uniform standards of discipline throughout the school	5.17	0.86	5.17	1.23	-0.01	4.62	0.97	4.52	0.85	0.45
6. Availability of financial resources	4.52	1.01	4.78	1.09	-1.01	3.93	0.95	3.74	1.10	0.74
7. Principal emphasizes achievement to students	4.78	1.01	5.04	0.71	-1.35	4.36	1.04	4.48	0.67	-0.60
8. Principal's awareness of what goes on in the school	5.66	0.58	5.61	0.58	0.32	5.10	0.97	5.00	0.85	0.47
9. Clearly stated curricular goals and objectives	5.33	0.87	5.23	0.61	0.61	4.53	0.93	4.76	0.63	-1.28

Table D.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Public (N=58)		Separate (N=23)			Public (N=58)		Separate (N=23)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
10. Openness in staff-principal communications	5.66	0.61	5.61	0.66	0.29	5.29	0.80	5.13	0.63	0.97
11. Effectiveness of supervisor of teachers	4.93	1.07	4.95	0.74	-0.10	4.12	1.08	4.10	0.77	0.12
12. Positive student attitudes	5.53	0.63	5.39	0.72	0.83	4.79	0.89	4.45	0.74	1.72
13. Students permitted to hold positions of responsibility	4.43	1.13	4.41	1.05	0.08	3.91	1.16	4.00	0.78	-0.38
14. Students feeling that teachers are trying to help them	5.62	0.72	5.52	0.79	0.52	4.86	0.87	4.74	0.69	0.67
15. Communication between staff and students	5.52	0.66	5.48	0.59	0.26	4.84	0.70	4.74	0.45	0.78
16. Sense of ownership that students have about the school	5.28	0.93	5.22	0.74	0.30	4.35	1.06	4.43	0.66	-0.43
17. Staff esprit de corps (group cohesiveness)	5.34	0.79	5.22	0.90	0.59	4.74	0.93	4.83	0.58	-0.49
18. School perceived by all involved as acting as a coherent whole	5.29	0.82	4.91	0.79	1.93	4.67	0.94	4.61	0.58	0.37
19. Teachers' job satisfaction	5.50	0.63	5.65	0.57	-1.05	4.81	0.83	4.78	0.80	0.14
20. Teachers' commitment to school goals	5.58	0.68	5.48	0.67	0.61	4.63	0.79	4.83	0.65	-1.13

Table D.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Public (N=58)		Separate (N=23)			Public (N=58)		Separate (N=23)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
21. Positive attitudes of teachers toward their work in school	5.64	0.58	5.61	0.58	0.20	5.02	0.69	4.95	0.49	0.45
22. Innovative teaching	4.53	0.97	4.61	0.78	-0.40	4.07	0.90	4.35	0.57	-1.64
23. Most of the school day is spent on actual instruction	4.64	1.07	4.91	0.61	-1.42	4.53	0.88	4.59	0.73	-0.29
24. Staff assumes responsibility for teaching basic skills	5.49	0.69	5.52	0.59	-0.20	5.09	0.87	5.04	0.83	0.21
25. Positive reinforcement for students' efforts	5.48	0.71	5.48	0.59	0.03	4.67	0.85	4.73	0.63	-0.31
26. Homework assigned and checked regularly	4.45	1.38	5.14	0.99	-2.47*	4.02	1.15	4.77	0.75	-3.44**
27. Spacious classrooms	4.00	1.20	4.30	1.15	-1.06	4.05	1.29	3.96	1.07	0.34
28. Adequate filing cabinets for all teachers	3.38	1.53	3.70	1.19	-0.99	4.38	1.46	4.00	1.38	1.08
29. Satisfactory duplicating and typing services available	4.34	1.31	4.70	0.97	-1.32	4.98	1.10	4.96	0.93	0.11
30. Good condition of school building	4.43	1.17	4.78	0.90	-1.45	4.64	1.21	4.96	0.77	-1.41
31. Good condition of equipment	4.81	0.87	4.65	0.83	0.76	4.79	0.93	4.83	0.83	-0.16

* $p < 0.05$
** $p < 0.01$

APPENDIX E

FORM A: T-TEST

SIZE OF COMMUNITY

Table E.1

Form A: t-test - Size of Community

	Prerequisite for Effectiveness					Performance				
	Urban (N=39)		Rural (N=42)			Urban (N=39)		Rural (N=42)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
1. Appropriate degree of decentralization of decision-making	4.92	0.66	4.59	1.02	1.76	4.56	0.85	4.37	0.89	1.02
2. Provision for contact and consultation with professional colleagues	5.21	0.74	4.93	0.87	1.57	4.51	1.10	4.45	1.19	0.24
3. Principal's involvement in coordination of instructional programs	5.13	0.73	4.95	1.01	0.90	4.68	0.78	4.55	1.13	0.59
4. High norms and academic standards of school	4.97	0.79	4.93	0.95	0.23	4.61	0.64	4.48	0.86	0.77
5. Uniform standards of discipline throughout the school	5.15	1.04	5.19	0.92	-0.17	4.51	0.79	4.67	1.05	-0.75
6. Availability of financial resources	5.03	0.93	4.19	0.97	3.95**	4.08	0.96	3.69	1.00	1.78
7. Principal emphasizes achievement to students	5.03	0.84	4.69	1.00	1.64	4.51	0.89	4.29	1.00	1.09
8. Principal's awareness of what goes on in the school	5.62	0.59	5.67	0.57	-0.40	5.05	0.83	5.10	1.03	-0.21
9. Clearly stated curricular goals and objectives	5.32	0.66	5.29	0.93	0.13	4.76	0.68	4.44	0.98	1.68

Table E.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Urban (N=39)		Rural (N=42)			Urban (N=39)		Rural (N=42)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
10. Openness in staff-principal communications	5.74	0.55	5.55	0.67	1.44	5.33	0.74	5.17	0.76	1.00
11. Effectiveness of supervisor of teachers	5.19	0.85	4.71	1.07	2.21*	4.24	0.80	4.00	1.15	1.10
12. Positive student attitudes	5.56	0.55	5.43	0.74	0.94	4.66	0.78	4.74	0.94	-0.42
13. Students permitted to hold positions of responsibility	4.71	0.93	4.17	1.19	2.29*	4.19	1.08	3.71	1.02	2.01*
14. Students feeling that teachers are trying to help them	5.59	0.72	5.60	0.77	-0.03	4.85	0.63	4.81	0.97	0.20
15. Communication between staff and students	5.54	0.64	5.48	0.63	0.44	4.85	0.54	4.78	0.73	0.46
16. Sense of ownership that students have about the school	5.41	0.79	5.12	0.94	1.51	4.51	0.76	4.24	1.11	1.27
17. Staff esprit de corps (group cohesiveness)	5.36	0.81	5.26	0.83	0.53	4.85	0.75	4.69	0.92	0.84
18. School perceived by all involved as acting as a coherent whole	5.18	0.89	5.19	0.77	-0.06	4.72	0.83	4.60	0.89	0.65
19. Teachers' job satisfaction	5.62	0.59	5.48	0.63	1.02	4.92	0.77	4.69	0.84	1.30
20. Teachers' commitment to school goals	5.64	0.63	5.46	0.71	1.19	4.90	0.68	4.49	0.78	2.51*

Table E.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Urban (N=39)		Rural (N=42)			Urban (N=39)		Rural (N=42)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
21. Positive attitudes of teachers toward their work in school	5.67	0.58	5.60	0.59	0.55	5.08	0.59	4.93	0.69	1.06
22. Innovative teaching	4.74	0.72	4.38	1.04	1.80	4.34	0.71	3.98	0.90	2.03*
23. Most of the school day is spent on actual instruction	4.84	0.86	4.60	1.06	1.15	4.53	0.80	4.57	0.89	-0.24
24. Staff assumes responsibility for teaching basic skills	5.50	0.65	5.50	0.67	0.00	5.00	0.87	5.14	0.84	-0.74
25. Positive reinforcement for students' efforts	5.51	0.68	5.45	0.67	0.40	4.79	0.70	4.60	0.86	1.11
26. Homework assigned and checked regularly	5.00	1.14	4.31	1.39	2.44*	4.58	0.95	3.90	1.14	2.88**
27. Spacious classrooms	4.51	1.02	3.69	1.20	3.33**	4.13	1.11	3.93	1.33	0.74
28. Adequate filing cabinets for all teachers	3.90	1.29	3.07	1.47	2.69**	4.18	1.47	4.36	1.43	-0.53
29. Satisfactory duplicating and typing services available	4.69	1.10	4.21	1.30	1.79	4.87	1.13	5.07	0.97	-0.85
30. Good condition of school building	4.92	0.81	4.17	1.23	3.30**	4.95	0.86	4.52	1.27	1.77
31. Good condition of equipment	4.90	0.79	4.64	0.91	1.35	4.79	0.95	4.81	0.86	-0.07

* $p < 0.05$
** $p < 0.01$

APPENDIX F

FORM A: F-TEST

SCHOOL GRADE LEVEL

TABLE F. 1

FORM A:F-TEST SCHOOL GRADE LEVEL

Criterion	Group 1 $\bar{x}$	Group 1 sd	Group 2 $\bar{x}$	Group 2 sd	Group 3 $\bar{x}$	Group 3 sd	F Ratio	Groups Significantly Different at 0.10000
1	4.9000	0.7589	4.5714	0.9759	4.4444	1.5899	0.874	-
1	4.3667	0.8503	4.5714	0.7868	4.6667	0.8660	0.513	-
2	5.0000	0.7428	5.1429	0.3780	5.3333	0.8660	0.748	-
2	4.2759	1.2217	4.7143	0.4879	4.8889	1.0541	1.245	-
3	5.1333	0.8193	4.7143	0.9512	4.6667	1.2247	1.214	-
3	4.5172	0.9495	4.7143	0.9512	4.5556	1.1304	0.112	-
4	4.8966	0.8596	5.2857	0.4879	5.2222	0.6667	1.067	-
4	4.5172	0.6877	4.8571	0.3780	4.7778	0.8333	0.987	-
5	5.0667	0.9444	5.0000	1.0000	5.5556	0.5270	1.164	-
5	4.5333	0.8996	4.8571	0.3780	5.0000	0.8660	1.265	-
6	4.7000	1.0875	4.8571	0.6901	4.5556	0.8819	0.178	-
6	3.9000	1.0619	3.8571	0.8997	3.6667	0.8660	0.186	-
7	4.8333	0.9499	5.2857	0.7559	5.5556	0.7265	2.604	-
7	4.2333	0.8976	5.0000	0.5774	5.1111	0.9280	4.814 *	3+1
8	5.7000	0.5960	5.7143	0.4879	5.5556	0.5270	0.243	-
8	4.8667	0.8996	5.0000	0.8165	5.0000	0.7071	0.127	-
9	5.4286	0.8789	5.1429	0.8997	5.3333	0.8660	0.302	-
9	4.4286	0.7902	4.8333	0.4082	4.6667	1.0000	0.784	-
10	5.5000	0.7311	6.0000	0.0	5.6667	0.5000	1.790	-
10	5.0000	0.8305	5.7143	0.4879	5.4444	0.7265	3.008	-
11	5.2333	1.0063	5.3333	0.5164	4.6667	0.7071	1.513	-
11	4.1667	1.2341	4.3333	0.5164	3.8889	0.6009	0.352	-
12	5.6000	0.5632	5.4286	0.5345	5.5556	0.7265	0.238	-
12	5.0000	0.7071	4.2857	0.7559	4.6667	0.8660	2.823	-
13	4.6000	0.9322	4.8571	0.3780	4.6667	1.0000	0.238	-
13	4.0000	1.0505	4.1667	0.7528	4.2222	0.9718	0.204	-
14	5.6000	0.6215	5.7143	0.4879	5.8889	0.3333	0.940	-
14	4.7333	0.6915	4.8571	0.6901	5.0000	0.7071	0.535	-
15	5.3333	0.7112	5.7143	0.4879	5.7778	0.4410	2.226	-
15	4.5333	0.6814	5.1429	0.3780	4.7778	0.6667	2.681	-
16	5.2000	0.8052	5.5714	0.7868	5.3333	0.7071	0.658	-
16	4.2667	0.9072	4.4286	0.7868	4.4444	0.8819	0.194	-

TABLE F.1 (CONT'D)

FORM A:F-TEST SCHOOL GRADE LEVEL

Criterion	Group 1 $\bar{x}$	Group 1 sd	Group 2 $\bar{x}$	Group 2 sd	Group 3 $\bar{x}$	Group 3 sd	F Ratio	Groups Significantly Different at 0.10000
17	5.3000	0.8367	5.1429	1.0690	5.3333	1.0000	0.103	-
17	4.7667	0.9353	5.1429	0.6901	4.4444	1.0138	1.135	-
18	5.1000	0.8847	5.1429	1.0690	5.5556	0.5270	0.988	-
18	4.5667	0.9353	4.8571	0.8997	4.6667	0.7071	0.310	-
19	5.4667	0.6814	5.7143	0.4879	5.6667	0.5000	0.659	-
19	4.6333	0.8087	5.1429	0.8997	5.0000	0.8660	1.444	-
20	5.5000	0.7768	5.7143	0.4879	5.7778	0.4410	0.701	-
20	4.4667	0.6288	5.1429	0.6901	4.6667	1.00000	2.536	-
21	5.5667	0.6789	5.7143	0.4879	5.7778	0.4410	0.482	-
21	4.7586	0.6356	5.4286	0.5345	4.7778	0.6667	3.318 *	2+1
22	4.6000	1.0034	4.7143	0.4879	4.2500	0.7071	0.605	-
22	4.1000	0.9229	4.2857	0.7559	4.0000	0.5345	0.220	-
23	4.5517	1.0884	5.0000	0.5774	5.0000	0.7071	1.111	-
23	4.3793	1.0147	4.5714	0.9759	4.8889	0.6009	1.018	-
24	5.4333	0.6789	5.7143	0.4879	5.2500	0.8864	0.844	-
24	5.0667	0.9072	5.0000	0.8165	4.6250	0.7440	0.818	-
25	5.4333	0.7739	5.4286	0.5345	5.6667	0.7071	0.370	-
25	4.6333	0.8503	4.5714	0.5345	4.7500	0.7071	0.105	-
26	4.4138	1.4020	5.4286	0.5345	4.6667	1.3229	1.730	-
26	3.9655	1.1797	4.5714	0.5345	4.0000	1.1180	0,879	-
27	4.3000	1.1788	4.0000	0.8165	3.3333	1.0000	2.674	-
27	4.1333	1.2243	3.8571	0.6901	3.5556	1.4240	0.836	-
28	3.6333	1.5196	4.1429	0.6901	2.7778	1.3017	2.072	-
28	4.2667	1.5298	4.7143	0.7559	3.7778	1.7159	0.798	-
29	4.2667	1.3113	4.8571	1.0690	4.1111	1.3642	0.749	-
29	4.8000	1.0954	5.1429	1.0690	5.1111	0.9280	0.490	-
30	4.5333	1.0080	5.0000	0.8165	4.4444	1.5092	0.609	-
30	4.7333	1.2015	5.1429	0.8997	4.6667	1.4142	0.378	-
31	4.7667	0.7739	5.0000	0.8165	4.5556	0.7265	0.565	-
31	4.8333	1.0532	4.7143	1.1127	4.8889	0.6009	0.063	-

Group 1 = Elementary N =
Group 2 = Junior High N =
Group 3 = High School N =

Top line for each criterion indicates the Prerequisite column.
Second line for each criterion indicates the Performance column.
* $p \leq 0.05$

APPENDIX G

FORM A: T-TEST

EDUCATION LEVEL OF RESPONDENT

Table G.1

Form A: t-test - Education Level of Respondent

	Prerequisite for Effectiveness					Performance				
	Bachelor (N=12)		more than Bachelor (N=68)			Bachelor (N=12)		more than Bachelor (N=68)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
1. Appropriate degree of decentralization of decision-making	4.75	0.87	4.73	0.88	0.07	4.58	0.67	4.42	0.89	0.75
2. Provision for contact and consultation with professional colleagues	4.92	0.90	5.07	0.80	-0.57	4.42	1.08	4.47	1.15	-0.15
3. Principal's involvement in coordination of instructional programs	5.17	0.72	5.00	0.91	0.71	4.67	0.65	4.58	1.02	0.40
4. High norms and academic standards of school	4.83	1.03	4.96	0.84	-0.39	4.50	0.91	4.52	0.73	-0.08
5. Uniform standards of discipline throughout the school	5.33	0.78	5.13	1.01	0.79	4.67	0.89	4.56	0.94	0.38
6. Availability of financial resources	4.67	1.07	4.56	1.03	0.32	3.50	0.91	3.96	1.00	-1.58
7. Principal emphasizes achievement to students	4.67	0.89	4.87	0.95	-0.72	4.25	0.87	4.40	0.95	-0.53
8. Principal's awareness of what goes on in the school	5.58	0.79	5.65	0.54	-0.27	5.17	0.84	5.04	0.95	0.46
9. Clearly stated curricular goals and objectives	5.67	0.49	5.23	0.84	2.50*	4.58	0.52	4.57	0.90	0.08

Table G.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Bachelor (N=12)		more than Bachelor (N=68)			Bachelor (N=12)		more than Bachelor (N=68)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
10. Openness in staff-principal communications	5.50	0.80	5.66	0.59	-0.67	5.25	0.75	5.24	0.76	0.06
11. Effectiveness of supervisor of teachers	5.08	1.00	4.91	1.00	0.56	4.33	0.78	4.09	1.03	0.94
12. Positive student attitudes	5.67	0.49	5.46	0.68	1.28	5.17	0.72	4.60	0.85	2.46*
13. Students permitted to hold positions of responsibility	4.58	0.79	4.37	1.14	0.78	4.17	1.03	3.86	1.05	0.93
14. Students feeling that teachers are trying to help them	5.42	0.79	5.62	0.73	-0.82	4.75	0.87	4.82	0.81	-0.27
15. Communication between staff and students	5.42	0.67	5.51	0.64	-0.47	4.50	0.80	4.85	0.58	-1.45
16. Sense of ownership that students have about the school	5.42	0.90	5.22	0.88	0.70	4.50	0.80	4.33	0.98	0.66
17. Staff esprit de corps (group cohesiveness)	5.17	0.94	5.32	0.80	-0.55	4.92	1.08	4.72	0.79	0.60
18. School perceived by all involved as acting as a coherent whole	5.33	0.78	5.15	0.83	0.76	4.75	0.97	4.62	0.83	0.45
19. Teachers' job satisfaction	5.42	0.67	5.56	0.61	-0.69	4.67	0.65	4.81	0.83	-0.67
20. Teachers' commitment to school goals	5.45	0.93	5.56	0.63	-0.36	4.55	0.69	4.69	0.76	-0.64

Table G.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Bachelor (N=12)		more than Bachelor (N=68)			Bachelor (N=12)		more than Bachelor (N=68)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
21. Positive attitudes of teachers toward their work in school	5.58	0.52	5.63	0.60	-0.30	4.82	0.60	5.01	0.64	-0.99
22. Innovative teaching	4.50	0.80	4.56	0.94	-0.23	4.33	0.89	4.12	0.82	0.78
23. Most of the school day is spent on actual instruction	4.67	0.89	4.70	0.99	-0.12	4.67	0.65	4.51	0.86	0.74
24. Staff assumes responsibility for teaching basic skills	5.33	0.65	5.53	0.66	-0.96	5.08	0.79	5.07	0.87	0.04
25. Positive reinforcement for students' efforts	5.42	0.67	5.49	0.68	-0.33	4.92	0.67	4.63	0.80	1.34
26. Homework assigned and checked regularly	4.17	1.40	4.70	1.29	-1.23	4.25	0.62	4.19	1.16	0.24
27. Spacious classrooms	4.17	1.12	4.09	1.21	0.22	4.67	1.23	3.93	1.20	1.93
28. Adequate filing cabinets for all teachers	3.50	1.51	3.47	1.45	0.06	4.92	1.24	4.18	1.46	1.85
29. Satisfactory duplicating and typing services available	4.33	1.37	4.47	1.22	-0.33	4.83	0.94	5.01	1.07	-0.60
30. Good condition of school building	4.33	1.07	4.56	1.13	-0.67	4.67	1.37	4.72	1.06	-0.13
31. Good condition of equipment	4.67	0.78	4.78	0.88	-0.45	4.83	1.34	4.79	0.82	0.10

* $p < 0.05$
** $p < 0.01$

APPENDIX H

FORM A: T-TEST

GENDER OF RESPONDENT

Table H.1

Form A: t-test - Gender of Respondent

	Prerequisite for Effectiveness					Performance				
	Female (N= 9)		Male (N=72)			Female (N= 9)		Male (N=72)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
1. Appropriate degree of decentralization of decision-making	4.89	1.05	4.73	0.86	0.43	4.89	0.60	4.41	0.89	2.12
2. Provision for contact and consultation with professional colleagues	5.67	0.50	4.99	0.82	3.53**	4.89	1.54	4.43	1.08	0.87
3. Principal's involvement in coordination of instructional programs	5.67	0.71	4.96	0.88	2.75*	5.00	1.12	4.56	0.96	1.14
4. High norms and academic standards of school	5.11	1.05	4.93	0.85	0.50	4.67	0.87	4.52	0.75	0.48
5. Uniform standards of discipline throughout the school	5.44	0.73	5.14	1.00	1.14	4.78	1.09	4.57	0.92	0.55
6. Availability of financial resources	4.00	1.23	4.67	0.99	-1.57	4.22	0.97	3.83	0.99	1.13
7. Principal emphasizes achievement to students	4.67	1.50	4.88	0.86	-0.41	4.22	1.39	4.42	0.88	-0.41
8. Principal's awareness of what goes on in the school	6.00	0.00	5.60	0.60	5.72**	5.89	0.33	4.97	0.93	5.86**
9. Clearly stated curricular goals and objectives	5.67	0.71	5.26	0.81	1.61	5.00	1.12	4.54	0.82	1.20

Table H.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Female (N= 9)		Male (N=72)			Female (N= 9)		Male (N=72)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
10. Openness in staff-principal communications	5.67	0.71	5.64	0.61	0.11	5.56	0.73	5.21	0.75	1.35
11. Effectiveness of supervisor of teachers	5.44	0.53	4.87	1.02	2.68*	4.67	1.12	4.04	0.97	1.60
12. Positive student attitudes	5.67	0.50	5.47	0.67	1.05	5.22	0.67	4.63	0.87	2.40*
13. Students permitted to hold positions of responsibility	4.44	1.67	4.42	1.02	0.04	4.22	1.39	3.90	1.02	0.67
14. Students feeling that teachers are trying to help them	5.22	1.09	5.64	0.68	-1.12	4.89	0.78	4.82	0.83	0.25
15. Communication between staff and students	5.44	0.53	5.51	0.65	-0.36	5.00	0.50	4.79	0.65	1.15
16. Sense of ownership that students have about the school	5.56	0.53	5.22	0.91	1.62	5.00	0.87	4.30	0.95	2.27*
17. Staff esprit de corps (group cohesiveness)	5.78	0.67	5.25	0.82	2.18	5.44	0.73	4.68	0.82	2.93*
18. School perceived by all involved as acting as a coherent whole	5.56	0.53	5.14	0.84	2.06	5.33	0.71	4.57	0.84	2.99*
19. Teachers' job satisfaction	5.67	0.50	5.53	0.63	0.76	5.22	0.67	4.75	0.82	1.95
20. Teachers' commitment to school goals	5.67	0.50	5.54	0.69	0.71	5.22	0.83	4.62	0.72	2.07

Table H.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Female (N= 9)		Male (N=72)			Female (N= 9)		Male (N=72)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
21. Positive attitudes of teachers toward their work in school	5.89	0.33	5.60	0.60	2.22*	5.50	0.76	4.94	0.61	2.01
22. Innovative teaching	4.63	1.06	4.54	0.90	0.21	3.63	0.74	4.21	0.82	-2.08
23. Most of the school day is spent on actual instruction	5.00	1.12	4.68	0.95	0.83	5.00	1.00	4.49	0.81	1.46
24. Staff assumes responsibility for teaching basic skills	5.50	0.54	5.50	0.67	0.00	5.13	0.84	5.07	0.86	0.18
25. Positive reinforcement for students' efforts	5.67	0.50	5.46	0.69	1.12	5.00	0.76	4.65	0.79	1.23
26. Homework assigned and checked regularly	4.56	1.88	4.65	1.24	-0.14	4.44	0.88	4.20	1.13	0.77
27. Spacious classrooms	3.89	1.05	4.11	1.21	-0.59	4.44	1.24	3.97	1.22	1.08
28. Adequate filing cabinets for all teachers	2.78	0.97	3.56	1.47	-2.12	4.56	1.51	4.24	1.44	0.60
29. Satisfactory duplicating and typing services available	3.78	1.20	4.53	1.21	-1.76	4.78	1.30	5.00	1.02	-0.49
30. Good condition of school building	4.33	1.12	4.56	1.11	-0.56	5.22	1.39	4.67	1.06	1.15
31. Good condition of equipment	4.56	1.01	4.79	0.84	-0.67	5.11	1.36	4.76	0.83	0.75

* $p < 0.05$
** $p < 0.01$

APPENDIX I

FORM A: FACTOR ANALYSIS

CRITERIA NECESSARY FOR EFFECTIVENESS

Appendix I FORM A : Factor Analysis - Criteria Necessary for Effectiveness

Varimax Rotated Factor Matrix - 5 Factors

Criterion	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	0.168	0.106	0.097	0.158	-0.048
2	0.453	0.452	0.336	0.270	0.059
3	0.148	0.184	0.258	0.682	-0.103
4	0.030	0.004	0.067	0.091	0.614
5	0.083	0.139	0.250	0.297	0.239
6	0.394	0.443	0.069	0.068	0.369
7	0.110	0.158	0.089	-0.098	0.675
8	0.233	0.053	0.415	0.218	0.092
9	0.159	-0.106	0.155	0.862	0.260
10	0.220	0.212	0.420	0.117	0.385
11	0.296	-0.020	0.405	0.436	0.161
12	0.646	0.085	0.222	0.179	-0.000
13	0.504	0.124	0.105	0.082	0.220
14	0.800	-0.048	0.016	-0.114	0.021
15	0.738	0.166	0.242	0.206	0.085
16	0.612	0.088	0.386	0.245	-0.093
17	0.173	0.142	0.816	0.107	0.100
18	0.262	0.123	0.758	0.159	0.178
19	0.485	0.095	0.279	0.283	0.280
20	0.493	0.100	0.498	0.283	0.106
21	0.484	0.109	0.141	0.524	0.208
22	0.291	0.279	0.181	0.149	0.184
23	-0.044	0.237	0.135	0.247	0.509
24	0.169	0.303	0.388	0.096	0.042
25	0.669	0.308	0.183	0.088	0.000
26	0.121	0.351	0.057	0.109	0.168
27	0.038	0.704	0.106	0.082	0.088
28	0.007	0.753	0.050	-0.066	0.083
29	-0.032	0.746	0.174	-0.243	0.198
30	0.171	0.764	0.117	0.161	0.030
31	0.223	0.717	0.036	0.142	-0.027

Factor	Eigenvalue	% of Var	Cum Var
1	8.69193	56.4	56.4
2	2.84768	18.5	74.9
3	1.64266	10.7	85.6
4	1.19932	7.8	93.3
5	1.02559	6.7	100.0

APPENDIX J

FORM A AND B: T-TEST

FRAMEWORK COMPONENT RANKING IN FORM A AND B

TABLE J.1

FORM A AND B: T-TEST OF FRAMEWORK COMPONENT RANKING

t-tests on both forms v78 to v88

FILE NONAME (CREATION DATE = 07/14/83)

T - T E S T

GROUP 1 - FIRST 81 CASES
GROUP 2 - NEXT 70 CASES

	VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB
Structure of the School Organization	V78												
	GROUP 1	79	6.4177	2.711	0.305	1.37	0.188	-0.09	147	0.925	-0.10	146.83	0.924
	GROUP 2	70	6.4571	2.320	0.277								
Managerial Policies	V79												
	GROUP 1	79	6.4430	2.459	0.277	1.37	0.188	0.30	147	0.762	0.31	146.83	0.760
	GROUP 2	70	6.3286	2.104	0.251								
Managerial Behavior	V80												
	GROUP 1	79	6.9114	2.779	0.313	1.03	0.897	0.44	147	0.664	0.44	145.36	0.661
	GROUP 2	70	6.7143	2.735	0.327								
Teacher Characteristics	V81												
	GROUP 1	79	6.5190	3.351	0.377	1.04	0.883	-0.02	147	0.986	-0.02	145.43	0.986
	GROUP 2	70	6.5286	3.291	0.393								
School Climate (Students)	V82												
	GROUP 1	79	7.0759	3.511	0.395	1.13	0.586	1.09	147	0.278	1.09	142.16	0.280
	GROUP 2	70	6.4286	3.740	0.447								
School Climate (Teachers)	V83												
	GROUP 1	79	7.2152	3.308	0.372	1.15	0.542	0.99	147	0.322	0.99	141.77	0.324
	GROUP 2	70	6.6571	3.550	0.424								
Teacher Outcomes	V84												
	GROUP 1	79	7.1646	3.036	0.342	1.12	0.627	1.78	147	0.077	1.79	146.40	0.076
	GROUP 2	70	6.3000	2.866	0.343								

TABLE J.1 (Cont'd)
FORM A AND B: T-TEST OF FRAMEWORK COMPONENT RANKING

t-tests on both forms v78 to v88

FILE NONAME (CREATION DATE = 07/14/83)

T - T E S T

GROUP 1 - FIRST 81 CASES
GROUP 2 - NEXT 70 CASES

	VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	2-TAIL PROB	POOLED VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB	SEPARATE VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB
The Teaching Process	V85												
	GROUP 1	79	6.8101	2.723	0.306	1.06	0.797	0.90	147	0.370	0.90	145.79	0.370
	GROUP 2	70	6.4143	2.640	0.316								
The Physical Aspect of the School Plant	V86												
	GROUP 1	79	5.4177	3.319	0.373	1.01	0.979	-1.12	147	0.265	-1.12	144.76	0.265
	GROUP 2	70	6.0286	3.327	0.398								
Decline in Enrolments	V87												
	GROUP 1	79	5.0000	3.836	0.432	1.25	0.337	-1.35	147	0.179	-1.34	139.47	0.182
	GROUP 2	70	5.9000	4.291	0.513								
Students' Background and Its Influence on Them	V88												
	GROUP 1	79	5.4051	3.181	0.358	1.04	0.879	-1.92	147	0.057	-1.92	145.44	0.056 ##
	GROUP 2	70	6.4000	3.123	0.373								

P < 0.05
Close to Significant
Group 1 = Form A
Group 2 = Form B

APPENDIX K

FORM B: F-TEST

JURISDICTION TYPE

TABLE K. 1

FORM B:F-TEST SCHOOL JURISDICTION

Criterion	Group 1 $\bar{x}$	Group 1 sd	Group 2 $\bar{x}$	Group 2 sd	Group 3 $\bar{x}$	Group 3 sd	F Ratio	Groups Significantly Different at 0.1000
1	4.7838	0.7865	4.6667	0.8876	4.5714	0.8106	0.471	-
1	4.8378	0.6877	4.7500	0.7538	4.5714	0.8106	0.875	-
2	4.4595	1.1924	4.5000	0.9045	4.5238	1.3645	0,020	-
2	4.0811	1.1638	3.4167	0.9003	3.7143	1.2306	1.757	-
3	4.4865	0.9316	4.3333	0.6513	4.2500	1.4096	0.347	-
3	3.7297	0.9617	3.5000	0.9045	3.2500	1.2927	1.348	-
4	4.3056	1.0370	4.8333	0.7177	4.7143	1.2306	1.626	-
4	3.9722	1.0278	4.1667	0.9374	4.3333	1.1106	0.818	-
5	4.9189	0.8621	5.0000	0.7385	4.8571	0.8536	0.111	-
5	4.3243	1.0015	4.2500	0.8660	4.0476	1.1170	0.499	-
6	5.0541	0.7433	4.7500	0.6216	5.0476	0.7400	0.864	-
6	4.7838	0.7838	4.8333	0.7177	4.6190	0.9735	0.344	-
7	5.3514	0.7894	4.9167	0.6686	5.1429	0.7928	1.565	-
7	5.0000	0.6236	4.8333	0.5774	4.6667	0.6583	1.920	-
8	5.2703	0.8045	5.0000	0.8528	4.9048	0.8309	1.470	-
8	4.9189	0.7218	4.6667	0.9847	4.5714	0.6761	1.543	-
9	4.0541	1.3322	3.9167	0.6686	4.1905	1.1233	0.212	-
9	3.9730	1.1899	3.8333	1.0299	3.7143	1.2306	0.331	-
10	4.7297	1.1462	4.3333	0.9847	4.5000	1.0513	0.700	-
10	4.8108	0.9672	4.5000	0.9045	4.6000	0.8208	0.674	-
11	4.3514	1.2068	4.1667	0.7177	4.4762	1.0779	0.302	-
11	4.2162	1.2278	3.8333	0.8348	4.2381	1.0911	0.596	-
12	5.6216	0.5452	5.5833	0.5149	5.5238	0.6016	0.206	-
12	4.9189	0.7593	4.8333	0.7177	4.6667	0.7958	0.731	-
13	5.6216	0.5940	5.4167	0.5149	5.5238	0.6016	0.607	-
13	4.9189	0.8293	4.8333	0.7177	4.6190	0.9207	0.856	-
14	5.5000	0.6094	5.3333	0.4924	5.4762	0.6016	0.367	-
14	4.6111	0.7664	4.4167	0.7930	4.3333	1.2780	0.608	-
15	5.6757	0.5299	5.3333	0.4924	5.4762	0.6796	1.915	-
15	4.8919	0.8427	4.6667	0.6513	4.6190	0.9207	0.821	-
16	5.4054	0.6855	5.3333	0.6513	5.1905	0.8136	0.596	-
16	4.7568	0.9251	4.3333	1.0731	4.6190	0.9735	0.881	-

TABLE K. 1 (CONT'D)

FORM B:F-TEST SCHOOL JURISDCTION

Criterion	Group 1 $\bar{x}$	Group 1 sd	Group 2 $\bar{x}$	Group 2 sd	Group 3 $\bar{x}$	Group 3 sd	F Ratio	Groups significantly Different at 0.1000
17	5.1351	0.8220	5.1667	0.7177	5.2857	0.7171	0.257	-
17	4.5135	1.0441	4.5000	0.9045	4.6190	0.8646	0.093	-
18	5.1892	0.6599	4.5833	0.6686	4.7619	0.6249	5.272 *	1+2 1+3
18	4.9730	0.7260	4.6667	0.6513	4.3810	0.5896	5.234 *	1+3
19	4.8649	1.0843	4.8333	0.9374	4.7619	0.8891	0.070	-
19	4.5676	0.8673	4.4167	0.5149	4.2857	0.8452	0,823	-
20	4.9444	0.9545	4.5000	0.6742	4.6667	1.1106	1.171	-
20	4.3056	1.0091	4.1667	0.8348	4.0476	1.4992	0.337	-
21	5.4324	0.7280	5.1667	0.7177	5.2857	0.4629	0.852	-
21	5.0833	0.7700	4.4167	0.7930	4.7619	0.8309	3.461 *	1+2
22	5.5135	0.7311	5.4167	0.6686	5.3333	0.5773	0.483	-
22	5.0811	0.7218	4.7500	0.7538	4.5714	0.8106	3.243 *	1+3
23	5.5135	0.6065	5.3333	0.6513	5.5714	0.5976	0.598	-
23	4.8108	0.6163	4.5833	0.9003	4.6667	1.0165	0.452	-
24	5.4054	0.7623	5.0000	0.6030	5.2857	0.6436	1.509	-
24	4.4595	0.8691	4.4167	0.5149	4.0476	0.9735	1.628	-
25	5.3784	0.7208	5.2500	0.4523	5.2381	0.7684	0.331	-
25	4.9189	0.6402	5.0000	0.7385	4.6667	0.6583	1.307	-
26	5.2222	0.8319	5.4167	0.6686	5.3500	0.7452	0.351	-
26	4.7222	0.5133	4.4167	0.9003	4.4500	0.6863	1.658	-
27	4.2973	1.3716	4.1667	0.8348	4.2857	1.1464	0.053	-
27	4.4865	1.2161	4.8333	0.5773	3.5714	1.3256	5.746 *	1+3 2+3
28	4.2432	1.0383	3.6667	1.2309	4.1905	1.1670	1.267	-
28	4.1081	1.2424	3.2500	1.4848	3.4286	1.3990	2.791	-
29	3.1351	1.5840	2.7500	1.2154	2.4762	1.2091	1.487	-
29	4.5946	1.5177	3.9167	1.7299	3.7619	1.9211	1.890	-
30	4.2973	1.2881	3.6667	0.9847	4.0476	1.1170	1.313	-
30	4.3784	1.3814	3.4167	1.2401	3.8571	1.4243	2.543	-
31	4.1622	1.3020	3.8333	1.0299	4.4762	1.0305	1.166	-
31	4.0270	1.3434	3.3333	1.3707	3.7143	1.2306	1.347	-

Group 1 = District N = 37
Group 2 = Division N = 12
Group 3 = County N = 21

Top line for each criterion indicates the Prerequisite column.
Second line for each criterion indicates the Performance column.
$p \leq 0.05$ *

APPENDIX L

FORM B: T-TEST

TYPE OF SYSTEM

Table L.1

Form B: t-test - Type of System

	Prerequisite for Effectiveness					Performance				
	Public (N=54)		Separate (N=16)			Public (N=54)		Separate (N=16)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
1. Autonomy of teachers - professional freedom	4.67	0.82	4.81	0.75	-0.67	4.70	0.77	4.88	0.62	-0.92
2. Reduced number of students per teacher (small class size)	4.39	1.17	4.81	1.22	-1.23	3.72	1.11	4.31	1.25	-1.23
3. Time for teachers to plan together provided by principal	4.38	1.10	4.44	0.89	-0.22	3.55	1.05	3.56	1.15	-0.05
4. Uniform academic standards throughout the school	4.64	1.00	4.13	1.20	1.56	4.15	0.97	4.00	1.27	0.44
5. Staff development and inservice	4.98	0.77	4.69	1.01	1.07	4.31	0.97	3.94	1.12	1.22
6. Availability of appropriate instructional material	4.94	0.69	5.19	0.83	-1.06	4.72	0.83	4.81	0.83	-0.38
7. Principal's organizational abilities	5.19	0.73	5.32	0.95	-0.50	4.83	0.64	5.00	0.63	-0.92
8. Principal's ability to encourage individual participation	5.15	0.79	5.00	0.97	0.56	4.76	0.73	4.81	0.91	-0.21
9. Academic progress of students checked frequently by principal	4.02	1.12	4.25	1.34	-0.63	3.76	1.12	4.25	1.29	-1.38

Table L.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Public (N=54)		Separate (N=16)			Public (N=54)		Separate (N=16)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
10. Fairness and expediency in allocating funds	4.47	1.03	5.00	1.21	-1.58	4.58	0.91	5.06	0.85	-1.93
11. System for monitoring school progress used	4.37	1.03	4.31	1.30	0.16	4.20	1.05	4.00	1.37	0.55
12. Positive student attitudes	5.57	0.54	5.63	0.62	-0.30	4.76	0.78	5.06	0.68	-1.52
13. School spirit - close, warm atmosphere	5.54	0.57	5.63	0.62	-0.51	4.78	0.88	4.94	0.68	-0.77
14. Teachers indicate expectations that all students can succeed	5.52	0.54	5.27	0.70	1.28	4.44	1.00	4.67	0.72	-0.96
15. Teachers concerned for emotional well-being of students	5.57	0.57	5.50	0.63	0.42	4.76	0.82	4.81	0.91	-0.21
16. School perceived by all involved as acting as a coherent whole	5.31	0.72	5.38	0.72	-0.29	4.57	0.98	4.88	0.89	-1.16
17. Parental contact and interest	5.24	0.70	5.00	0.97	0.93	4.56	0.88	4.50	1.21	0.17
18. Teachers' satisfaction with principal	4.91	0.71	5.13	0.62	-1.19	4.72	0.71	4.81	0.75	-0.43
19. Punctuality of teachers	4.70	1.06	5.25	0.58	-2.68*	4.28	0.76	5.06	0.68	-3.94**
20. Teacher participation in non-compulsory activities	4.75	0.94	4.88	1.09	-0.40	4.15	1.18	4.38	1.03	-0.74

Table L.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Public (N=54)		Separate (N=16)			Public (N=54)		Separate (N=16)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
21. Teachers as role models for students	5.35	0.59	5.31	0.87	0.17	4.78	0.84	5.20	0.68	-2.02
22. Teachers' goals are compatible with school goals	5.48	0.57	5.31	0.95	0.68	4.80	0.79	5.13	0.72	-1.57
23. Instructional effectiveness	5.59	0.57	5.19	0.66	2.24*	4.70	0.84	4.81	0.66	-0.55
24. Student-centered teaching methods	5.37	0.65	5.06	0.85	1.33	4.31	0.82	4.38	1.03	-0.22
25. Pupil progress frequently monitored by teachers	5.28	0.69	5.44	0.73	-0.78	4.83	0.72	4.94	0.44	-0.70
26. Class time spent productively on task	5.35	0.74	5.13	0.89	0.91	4.52	0.67	4.81	0.54	-1.78
27. Adequacy of the janitorial service	4.22	1.16	4.44	1.41	-0.56	4.15	1.25	4.69	1.20	-1.57
28. Quiet work space for teachers	4.02	1.12	4.50	1.03	-1.60	3.59	1.37	4.31	1.25	-1.98
29. Sufficient number of parking spaces and plug-ins	2.74	1.36	3.31	1.62	-1.28	4.04	1.75	4.88	1.41	-1.97
30. Pleasant staff room facilities	4.00	1.18	4.50	1.21	-1.46	3.89	1.49	4.63	0.89	-2.45*
31. Good condition of school grounds	4.22	1.14	4.13	1.36	0.26	3.72	1.31	4.13	1.36	-1.05

* $p < 0.05$
** $p < 0.01$

APPENDIX M

FORM B: T-TEST

SIZE OF COMMUNITY

Table M.1

Form B: t-test - Size of Community

	Prerequisite for Effectiveness					Performance				
	Urban (N=38)		Rural (N=31)			Urban (N=38)		Rural (N=31)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
1. Autonomy of teachers - professional freedom	4.79	0.78	4.58	0.85	1.06	4.82	0.69	4.65	0.80	0.94
2. Reduced number of students per teacher (small class size)	4.42	1.33	4.58	1.03	-0.56	3.89	1.11	3.81	1.25	0.31
3. Time for teachers to plan together provided by principal	4.37	1.00	4.40	1.13	-0.12	3.63	1.03	3.43	1.14	0.75
4. Uniform academic standards throughout the school	4.26	1.16	4.80	0.85	-2.21*	3.89	1.13	4.33	0.80	-1.87
5. Staff development and inservice	4.89	0.86	4.94	0.81	-0.20	4.24	0.97	4.19	1.08	0.17
6. Availability of appropriate instructional material	5.05	0.73	4.90	0.70	0.86	4.74	0.76	4.74	0.93	-0.02
7. Principal's organizational abilities	5.37	0.75	5.00	0.78	1.99	5.05	0.57	4.61	0.62	3.06**
8. Principal's ability to encourage individual participation	5.21	0.81	4.97	0.84	1.22	4.95	0.70	4.52	0.77	2.42*
9. Academic progress of students checked frequently by principal	4.13	1.32	3.97	0.98	0.59	4.05	1.25	3.61	1.02	1.61

Table M.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Urban (N=38)		Rural (N=31)			Urban (N=38)		Rural (N=31)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
10. Fairness and expediency in allocating funds	4.82	1.06	4.27	1.05	2.13*	4.95	0.84	4.33	0.88	2.91**
11. System for monitoring school progress used	4.34	1.15	4.39	1.05	-0.17	4.13	1.19	4.23	1.06	-0.35
12. Positive student attitudes	5.63	0.54	5.52	0.57	0.86	4.84	0.79	4.77	0.72	0.37
13. School spirit - close, warm atmosphere	5.63	0.54	5.45	0.62	1.26	4.84	0.86	4.77	0.85	0.33
14. Teachers indicate expectations that all students can succeed	5.38	0.64	5.55	0.51	-1.22	4.57	0.77	4.35	1.11	0.90
15. Teachers concerned for emotional well-being of students	5.55	0.60	5.55	0.57	0.03	4.79	0.88	4.74	0.82	0.23
16. School perceived by all involved as acting as a coherent whole	5.29	0.80	5.35	0.61	-0.38	4.63	1.00	4.61	0.92	0.08
17. Parental contact and interest	5.08	0.82	5.29	0.69	-1.16	4.42	1.06	4.68	0.83	-1.13
18. Teachers' satisfaction with principal	5.16	0.68	4.68	0.60	3.12**	4.92	0.71	4.52	0.68	2.41*
19. Punctuality of teachers	4.92	0.85	4.71	1.16	0.85	4.53	0.80	4.35	0.84	0.86
20. Teacher participation in non-compulsory activities	5.00	0.91	4.48	0.96	2.26*	4.38	0.98	3.94	1.26	1.59

Table M.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Urban (N=38)		Rural (N=31)			Urban (N=38)		Rural (N=31)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
21. Teachers as role models for students	5.42	0.72	5.23	0.56	1.26	4.95	0.85	4.74	0.77	1.04
22. Teachers' goals are compatible with school goals	5.45	0.72	5.42	0.62	0.17	5.03	0.72	4.68	0.83	1.84
23. Instructional effectiveness	5.45	0.60	5.55	0.62	-0.68	4.74	0.64	4.68	0.95	0.30
24. Student-centered teaching methods	5.32	0.81	5.26	0.58	0.35	4.39	0.89	4.19	0.79	0.99
25. Pupil progress frequently monitored by teachers	5.37	0.71	5.23	0.67	0.85	4.89	0.65	4.77	0.67	0.75
26. Class time spent productively on task	5.22	0.79	5.37	0.77	-0.79	4.65	0.54	4.47	0.73	1.14
27. Adequacy of the janitorial service	4.26	1.35	4.23	1.02	0.13	4.39	1.26	4.19	1.20	0.68
28. Quiet work space for teachers	4.18	1.09	4.00	1.13	0.69	3.97	1.28	3.58	1.39	1.21
29. Sufficient number of parking spaces and plug-ins	3.16	1.53	2.42	1.09	2.33*	4.63	1.57	3.84	1.72	1.99
30. Pleasant staff room facilities	4.32	1.14	3.81	1.20	1.80	4.34	1.32	3.81	1.38	1.64
31. Good condition of school grounds	4.13	1.28	4.23	1.06	-0.34	4.03	1.37	3.65	1.17	1.25

* $p < 0.05$
** $p < 0.01$

APPENDIX N

FORM B: F-TEST

SCHOOL GRADE LEVEL

TABLE N. 1
FORM B: F-TEST SCHOOL GRADE LEVEL

Criterion	Group 1 $\bar{x}$	Group 1 sd	Group 2 $\bar{x}$	Group 2 sd	Group 3 $\bar{x}$	Group 3 sd	F Ratio	Groups Significantly Different at 0.10000
1	4.6897	0.8495	4.6250	0.9161	4.4000	0.8944	0.240	-
1	4.8276	0.7106	4.6250	0.7440	4.6000	0.5477	0.412	-
2	4.4828	1.2711	4.5000	0.7559	3.2000	1.6432	2.368	-
2	4.1379	1.1252	4.0000	1.1952	2.8000	0.8367	3.094 #	1+3
3	4.4286	1.1031	4.3750	0.7440	3.8000	1.6432	0.674	-
3	3.8214	1.0905	3.5000	0.9258	3.4000	1.5166	0.474	-
4	4.4828	1.0563	5.0000	0.5774	4.8000	0.8367	0.904	-
4	4.0690	0.9611	4.4286	1.1339	4.4000	1.1402	0.504	-
5	4.8966	0.9002	4.8750	0.6409	5.2000	0.8367	0.290	-
5	4.3448	0.9364	4.6250	0.9161	4.0000	0.7071	0.731	-
6	4.8966	0.7243	5.1250	0.6409	5.2000	0.8367	0.586	-
6	4.7241	0.8408	5.0000	0.5345	5.0000	0.7071	0.560	-
7	5.2414	0.7863	5.5000	0.5345	4.8000	0.8367	1.331	-
7	4.9655	0.6258	5.1250	0.8345	4.8000	0.4472	0.394	-
8	5.1034	0.9390	5.2500	0.4629	5.4000	0.8944	0.294	-
8	4.7931	0.7736	5.1250	0.3536	5.0000	0.7071	0.766	-
9	3.8966	1.3187	4.3750	0.7440	4.2000	1.3038	0.529	-
9	3.8966	1.1131	4.3750	1.1877	2.8000	1.0954	3.073 #	2+3
10	4.6429	1.1292	4.6250	1.1877	4.4000	1.1402	0.097	-
10	4.7500	0.9280	4.8750	1.2464	4.6000	0.5477	0.127	-
11	4.2759	1.1921	4.0000	0.7559	4.2000	1.4832	0.177	-
11	4.2759	1.0656	4.0000	0.9258	3.2000	1.3038	2.198	-
12	5.5517	0.6317	5.2500	0.4629	6.0000	0.0	2.666	-
12	5.1034	0.6732	5.0000	0.7559	4.4000	0.5477	2.300	-
13	5.4828	0.6877	5.5000	0.5345	6.0000	0.0	1.488	-
13	5.1034	0.8170	5.1250	0.6409	4.6000	0.5477	0.977	-
14	5.5714	0.5727	5.2500	0.4629	5.6000	0.5477	1.129	-
14	4.8571	0.8909	4.3750	0.9161	4.2000	0.8367	1.751	-
15	5.5862	0.5680	5.3750	0.5175	5.4000	0.8944	0.507	-
15	5.0345	0.7784	4.5000	0.5345	4.4000	0.5477	2.879	-
16	5.3793	0.6769	5.0000	0.5345	5.2000	0.8367	1.044	-
16	5.0000	0.8864	4.6250	0.9161	4.0000	0.7071	3.003 #	1+3

TABLE N. 1 (CONT'D)

FORM B : F - TEST SCHOOL GRADE LEVEL

Criterion	Group 1 $\bar{x}$	Group 1 sd	Group 2 $\bar{x}$	Group 2 sd	Group 3 $\bar{x}$	Group 3 sd	F Ratio	Groups Significantly Different at 0.10000
17	5.2759	0.8408	5.1250	0.6409	5.2000	0.8367	0.116	-
17	4.8276	1.0025	4.5000	0.5345	3.8000	0.8367	2.785	-
18	4.9655	0.7311	5.1250	0.8345	4.8000	0.8367	0.289	-
18	4.8621	0.7428	5.2500	0.7071	4.2000	0.4472	3.352 *	2+3
19	4.7931	1.2358	4.5000	0.7559	4.8000	0.4472	0.230	-
19	4.4138	0.8667	4.3750	1.0607	4.4000	0.5477	0.006	-
20	4.3793	1.1153	5.3750	0.5175	5.4000	0.5477	4.668 *	2+1
20	3.8966	1.1131	4.6250	1.0607	4.4000	0.5477	1.717	-
21	5.4483	0.6859	5.1250	0.6409	5.4000	0.5477	0.743	-
21	5.1034	0.6732	4.6250	1.0607	4.2000	0.4472	3.883 *	1+3
22	5.4483	0.7831	5.3750	0.5175	5.2000	0.8367	0.243	-
22	4.8966	0.8170	4.7500	0.8864	4.8000	0.4472	0.120	-
23	5.5172	0.6336	5.3750	0.5175	5.8000	0.4472	0.784	-
23	4.8966	0.6732	4.8750	0.6409	4.6000	0.5477	0.440	-
24	5.2069	0.7736	5.6250	0.5175	5.2000	0.8367	1.035	-
24	4.3103	0.8495	5.1250	0.6409	4.2000	0.8367	3.408 *	2+1
25	5.2414	0.7395	5.1250	0.8345	5.4000	0.5477	0.213	-
25	4.7931	0.7260	5.0000	0.7559	4.6000	0.5477	0.506	-
26	5.3214	0.8630	5.1250	0.8345	5.2000	0.8367	0.182	-
26	4.7500	0.5853	4.5000	0.7559	4.2000	0.4472	1.977	-
27	4.2414	1.4055	4.3750	1.4079	4.0000	0.7071	0.119	-
27	4.3448	1.1425	4.1250	1.4577	4.0000	1.0000	0.244	-
28	4.1724	1.1671	4.2500	1.1650	3.6000	0.8944	0.601	-
28	3.5862	1.4520	3.1250	1.3562	3.8000	1.0954	0.449	-
29	3.0000	1.6903	3.1250	1.8077	2.6000	1.3416	0.160	-
29	4.1379	1.7469	3.7500	2.2520	5.4000	0.8944	1.402	-
30	4.4828	1.2427	3.8750	1.5526	3.2000	0.8367	2.528	-
30	4.4483	1.3780	2.6250	1.3025	4.8000	0.8367	6.695 *	1+2 3+2
31	4.2414	1.4055	4.6250	1.0607	3.4000	0.8944	1.377	-
31	4.0345	1.1797	3.6250	1.7678	3.2000	1.0954	1.040	-

Group 1 = Elementary N = 29
Group 2 = Junior High N = 8
Group 3 = High School N = 5

* denotes significantly different responses at probability level 0.05
# denotes responses that are close to significant, but their F probability is greater than 0.05.

APPENDIX O

FORM B: T-TEST

EDUCATION LEVEL OF RESPONDENT

Table 0.1

Form B: t-test - Education Level of Respondent

	Prerequisite for Effectiveness					Performance				
	Bachelor (N=13)		more than Bachelor (N=57)			Bachelor (N=13)		more than Bachelor (N=57)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
1. Autonomy of teachers - professional freedom	4.77	1.01	4.68	0.76	0.28	4.46	0.97	4.81	0.67	-1.22
2. Reduced number of students per teacher (small class size)	4.54	1.39	4.47	1.15	0.16	3.85	1.28	3.86	1.14	-0.03
3. Time for teachers to plan together provided by principal	4.42	1.24	4.39	1.01	0.08	3.17	1.27	3.63	1.01	-1.19
4. Uniform academic standards throughout the school	5.08	0.76	4.39	1.09	2.67*	3.92	0.76	4.16	1.09	-0.83
5. Staff development and inservice	5.00	0.91	4.89	0.82	0.38	3.85	0.90	4.32	1.02	-1.66
6. Availability of appropriate instructional material	4.92	0.64	5.02	0.74	-0.47	4.15	0.56	4.88	0.83	-3.83**
7. Principal's organizational abilities	5.23	0.73	5.21	0.80	0.09	4.62	0.51	4.93	0.65	-1.91
8. Principal's ability to encourage individual participation	4.92	0.95	5.16	0.80	-0.82	4.39	0.77	4.86	0.74	-2.02
9. Academic progress of students checked frequently by principal	4.15	1.35	4.05	1.14	0.25	3.62	0.96	3.93	1.21	-1.01

Table 0.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Bachelor (N=13)		more than Bachelor (N=57)			Bachelor (N=13)		more than Bachelor (N=57)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
10. Fairness and expediency in allocating funds	4.23	0.93	4.68	1.11	-1.51	4.38	0.77	4.77	0.93	-1.55
11. System for monitoring school progress used	4.54	1.20	4.32	1.07	0.62	4.31	0.95	4.12	1.17	0.61
12. Positive student attitudes	5.69	0.48	5.56	0.57	0.86	4.69	0.86	4.86	0.74	-0.65
13. School spirit - close, warm atmosphere	5.62	0.51	5.54	0.60	0.44	4.62	1.19	4.86	0.74	-0.71
14. Teachers indicate expectations that all students can succeed	5.62	0.51	5.43	0.60	1.16	3.85	1.46	4.64	0.72	-1.91
15. Teachers concerned for emotional well-being of students	5.62	0.51	5.54	0.60	0.44	4.46	1.05	4.84	0.77	-1.23
16. School perceived by all involved as acting as a coherent whole	5.46	0.52	5.30	0.76	0.93	4.62	1.12	4.65	0.94	-0.10
17. Parental contact and interest	5.31	0.63	5.16	0.80	0.73	4.46	0.97	4.56	0.96	-0.34
18. Teachers' satisfaction with principal	4.85	0.69	4.98	0.69	-0.64	4.54	0.88	4.79	0.67	-0.97
19. Punctuality of teachers	5.23	0.73	4.74	1.03	2.03	4.31	0.86	4.49	0.81	-0.71
20. Teacher participation in non-compulsory activities	4.69	1.03	4.80	0.96	-0.35	3.77	1.30	4.30	1.09	-1.37

Table 0.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Bachelor (N=13)		more than Bachelor (N=57)			Bachelor (N=13)		more than Bachelor (N=57)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
21. Teachers as role models for students	5.46	0.66	5.32	0.66	0.72	4.38	0.96	4.98	0.75	-2.10
22. Teachers' goals are compatible with school goals	5.15	0.56	5.51	0.69	-1.99	4.23	0.83	5.02	0.69	-3.17**
23. Instructional effectiveness	5.46	0.78	5.51	0.57	-0.21	4.23	0.93	4.84	0.73	-2.23*
24. Student-centered teaching methods	5.31	0.75	5.30	0.71	0.04	4.00	1.00	4.40	0.82	-1.35
25. Pupil progress frequently monitored by teachers	5.31	0.75	5.32	0.69	-0.04	4.54	0.78	4.93	0.62	-1.70
26. Class time spent productively on task	5.54	0.78	5.24	0.77	1.26	4.31	0.75	4.65	0.62	-1.55
27. Adequacy of the janitorial service	4.62	1.04	4.19	1.25	1.27	3.92	1.44	4.35	1.20	-0.99
28. Quiet work space for teachers	4.38	1.04	4.07	1.13	0.96	3.54	0.97	3.81	1.45	-0.81
29. Sufficient number of parking spaces and plug-ins	2.54	1.39	2.95	1.44	-0.95	3.54	1.56	4.39	1.71	-1.74
30. Pleasant staff room facilities	3.85	1.14	4.18	1.21	-0.93	3.38	1.45	4.21	1.36	-1.88
31. Good condition of school grounds	4.38	0.96	4.16	1.24	0.72	4.00	1.00	3.77	1.39	0.69

* $p < 0.05$
** $p < 0.01$

APPENDIX P

FORM B: T-TEST

GENDER OF RESPONDENT

Table P.1

Form B: t-test - Gender of Respondent

	Prerequisite for Effectiveness					Performance				
	Female (N=10)		Male (N=60)			Female (N=10)		Male (N=60)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
1. Autonomy of teachers - professional freedom	4.60	0.84	4.72	0.80	-0.41	4.90	0.57	4.72	0.76	0.90
2. Reduced number of students per teacher (small class size)	4.10	0.99	4.55	1.21	-1.28	3.60	1.27	3.90	1.15	-0.70
3. Time for teachers to plan together provided by principal	5.00	0.67	4.29	1.07	2.82*	3.90	0.88	3.49	1.09	1.31
4. Uniform academic standards throughout the school	4.33	0.87	4.55	1.10	-0.67	4.00	1.00	4.13	1.05	-0.37
5. Staff development and inservice	5.20	0.79	4.87	0.83	1.23	4.10	1.10	4.25	1.00	-0.40
6. Availability of appropriate instructional material	5.10	0.99	4.98	0.68	0.36	4.70	0.95	4.75	0.82	-0.16
7. Principal's organizational abilities	5.40	0.70	5.18	0.79	0.89	4.80	0.79	4.88	0.61	-0.32
8. Principal's ability to encourage individual participation	5.50	0.71	5.05	0.83	1.81	4.80	0.63	4.77	0.79	0.15
9. Academic progress of students checked frequently by principal	4.00	1.05	4.08	1.20	-0.23	3.70	1.16	3.90	1.18	-0.50

Table P.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Female (N=10)		Male (N=60)			Female (N=10)		Male (N=60)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
10. Fairness and expediency in allocating funds	4.78	1.39	4.57	1.05	0.44	4.56	1.24	4.72	0.87	-0.38
11. System for monitoring school progress used	4.20	1.32	4.38	1.06	-0.42	3.90	1.45	4.20	1.07	-0.63
12. Positive student attitudes	5.80	0.42	5.55	0.57	1.64	4.90	0.74	4.82	0.77	0.33
13. School spirit - close, warm atmosphere	5.80	0.42	5.52	0.60	1.84	4.80	0.79	4.82	0.85	-0.06
14. Teachers indicate expectations that all students can succeed	5.70	0.68	5.42	0.56	1.22	4.80	0.79	4.44	0.97	1.29
15. Teachers concerned for emotional well-being of students	5.90	0.32	5.50	0.60	3.17**	5.10	0.57	4.72	0.87	1.81
16. School perceived by all involved as acting as a coherent whole	5.80	0.42	5.25	0.73	3.37**	4.70	0.95	4.63	0.97	0.20
17. Parental contact and interest	5.70	0.68	5.10	0.75	2.56*	4.70	0.68	4.52	1.00	0.73
18. Teachers' satisfaction with principal	5.10	0.74	4.93	0.69	0.67	4.90	0.57	4.72	0.74	0.90
19. Punctuality of teachers	4.90	0.88	4.82	1.02	0.27	4.30	0.95	4.48	0.79	-0.58
20. Teacher participation in non-compulsory activities	4.70	1.25	4.80	0.92	-0.23	4.20	1.40	4.20	1.11	-0.01

Table P.1 (continued)

	Prerequisite for Effectiveness					Performance				
	Female (N=10)		Male (N=60)			Female (N=10)		Male (N=60)		
	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
21. Teachers as role models for students	5.50	0.71	5.32	0.65	0.77	5.11	0.78	4.83	0.83	0.99
22. Teachers' goals are compatible with school goals	5.60	0.70	5.42	0.67	0.77	4.90	0.57	4.87	0.81	0.16
23. Instructional effectiveness	5.70	0.48	5.47	0.62	1.35	4.80	0.63	4.72	0.83	0.37
24. Student-centered teaching methods	5.60	0.70	5.25	0.70	1.46	4.40	0.70	4.32	0.89	0.33
25. Pupil progress frequently monitored by teachers	5.50	0.53	5.28	0.72	1.14	4.90	0.74	4.85	0.66	0.20
26. Class time spent productively on task	5.33	0.87	5.29	0.77	0.15	4.78	0.67	4.56	0.65	0.92
27. Adequacy of the janitorial service	4.50	1.08	4.23	1.24	0.71	4.10	1.37	4.30	1.24	-0.43
28. Quiet work space for teachers	4.30	1.06	4.10	1.13	0.55	3.40	1.65	3.82	1.32	-0.76
29. Sufficient number of parking spaces and plug-ins	2.90	1.73	2.87	1.40	0.06	3.70	2.00	4.32	1.65	-0.92
30. Pleasant staff room facilities	3.90	1.60	4.15	1.13	-0.48	3.70	1.83	4.12	1.33	-0.69
31. Good condition of school grounds	4.40	0.97	4.17	1.22	0.68	3.40	1.43	3.88	1.30	-1.00

* $p < 0.05$
** $p < 0.01$

APPENDIX Q

FORM B: FACTOR ANALYSIS

CRITERIA NECESSARY FOR EFFECTIVENESS

Appendix Q Form B : Factor Analysis - Criteria Necessary for Effectiveness

Varimax Rotated Factor Matrix - 5 Factors

Criterion	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	0.234	0.580	0.001	-0.224	-0.167
2	0.111	0.344	0.043	0.041	-0.028
3	0.229	0.235	0.254	0.438	0.007
4	0.130	0.064	-0.026	0.136	0.593
5	0.015	-0.025	0.095	0.658	0.299
6	0.358	0.230	0.229	0.447	-0.001
7	0.223	0.394	0.121	0.427	0.127
8	-0.060	0.204	0.133	0.485	0.078
9	0.369	-0.025	-0.055	0.493	0.214
10	0.374	0.514	0.044	0.230	-0.242
11	0.387	0.008	0.154	0.362	0.486
12	0.044	0.474	0.350	0.233	0.216
13	-0.102	0.503	0.194	0.258	0.054
14	0.000	0.115	0.751	-0.123	0.230
15	0.008	0.178	0.862	0.147	0.012
16	-0.003	0.557	0.366	0.072	0.395
17	0.085	0.341	0.200	0.197	0.322
18	0.212	0.653	0.068	0.264	0.124
19	0.126	0.574	-0.017	0.073	0.339
20	0.224	0.257	0.112	0.440	0.166
21	0.193	0.455	0.286	0.033	0.330
22	0.164	0.220	0.479	0.200	0.090
23	-0.022	0.012	0.378	0.288	0.444
24	0.062	-0.009	0.559	0.342	-0.035
25	0.246	0.379	0.396	0.359	0.323
26	0.226	0.094	0.237	0.169	0.464
27	0.742	0.170	-0.006	-0.081	0.384
28	0.703	0.170	0.155	0.003	0.228
29	0.708	0.142	0.012	0.210	0.053
30	0.651	0.107	-0.008	0.083	-0.059
31	0.746	0.161	0.097	0.152	0.167

Factor	Eigenvalue	% of Var	Cum %
1	8.13249	55.2	55.2
2	2.50099	17.0	72.2
3	1.69724	11.5	83.7
4	1.26655	8.6	92.3
5	1.13562	7.7	100.0

APPENDIX R

FORM A: T-TEST

PREREQUISITE WITH PERFORMANCE
(COMPARISON OF RATINGS ON SAME CRITERIA)

Table R.1

Form A: t-test - Prerequisite with Performance

	N	Prerequisite Mean	Prerequisite SD	Performance Mean	Performance SD	t
1. Appropriate degree of decentralization of decision-making	80	4.75	0.88	4.46	0.87	2.76**
2. Provision for contact and consultation with professional colleagues	79	5.05	0.82	4.48	1.14	4.90**
3. Principal's involvement in coordination of instructional programs	79	5.04	0.89	4.61	0.98	4.88**
4. High norms and academic standards of school	80	4.95	0.87	4.54	0.76	4.33**
5. Uniform standards of discipline throughout the school	81	5.17	0.92	4.54	0.93	6.26**
6. Availability of financial resources	81	4.59	1.03	3.78	0.99	4.73**
7. Principal emphasizes achievement to students	81	4.85	0.94	4.40	0.94	4.82**
8. Principal's awareness of what goes on in the school	81	5.64	0.58	5.07	0.93	6.01**
9. Clearly stated curricular goals and objectives	78	5.29	0.81	4.59	0.86	7.42**

Table R.1 (continued)

	N	Prerequisite Mean	Prerequisite SD	Performance Mean	Performance SD	t
10. Openness in staff-principal communications	81	5.64	0.62	5.25	0.75	5.51**
11. Effectiveness of supervisor of teachers	79	4.94	0.99	4.11	1.00	7.86**
12. Positive student attitudes	80	5.49	0.66	4.70	0.86	7.86**
13. Students permitted to hold positions of responsibility	79	4.42	1.11	3.94	1.07	4.59**
14. Students feeling that teachers are trying to help them	81	5.59	0.74	4.83	0.82	7.67**
15. Communication between staff and students	80	5.50	0.64	4.81	0.64	8.32**
16. Sense of ownership that students have about the school	80	5.29	0.85	4.38	0.96	7.90**
17. Staff esprit de corps (group cohesiveness)	81	5.31	0.82	4.77	0.84	6.31**
18. School perceived by all involved as acting as a coherent whole	81	5.19	0.82	4.65	0.85	5.92**
19. Teachers' job satisfaction	81	5.54	0.61	4.80	0.81	7.36**
20. Teachers' commitment to school goals	80	5.55	0.67	4.69	0.77	9.56**

Table R.1 (continued)

	N	Prerequisite Mean	Prerequisite SD	Performance Mean	Performance SD	t
21. Positive attitudes of teachers toward their work in school	79	5.62	0.58	5.00	0.64	7.64**
22. Innovative teaching	80	4.55	0.91	4.15	0.83	3.53**
23. Most of the school day is spent on actual instruction	80	4.71	0.97	4.55	0.84	1.84
24. Staff assumes responsibility for teaching basic skills	80	5.50	0.66	5.08	0.85	5.67**
25. Positive reinforcement for students' efforts	80	5.48	0.68	4.69	0.79	8.91**
26. Homework assigned and checked regularly	80	4.64	1.31	4.23	1.10	3.88**
27. Spacious classrooms	81	4.09	1.19	4.02	1.22	0.37
28. Adequate filing cabinets for all teachers	80	3.46	1.45	4.28	1.44	-4.31**
29. Satisfactory duplicating and typing services available	81	4.44	1.23	4.98	1.05	-3.87**
30. Good condition of school building	81	4.53	1.11	4.73	1.11	-1.38
31. Good condition of equipment	81	4.77	0.86	4.80	0.90	-0.29

* $p < 0.05$
** $p < 0.01$

APPENDIX S

FORM B: T-TEST

PREREQUISITE WITH PERFORMANCE (COMPARISON OF RATINGS ON SAME CRITERIA)

Table S.1

Form B: t-test - Prerequisite with Performance

	N	Prerequisite Mean	Prerequisite SD	Performance Mean	Performance SD	t
1. Autonomy of teachers - professional freedom	70	4.70	0.81	4.74	0.74	-0.52
2. Reduced number of students per teacher (small class size)	70	4.49	1.19	3.86	1.16	3.69**
3. Time for teachers to plan together provided by principal	69	4.39	1.05	3.55	1.07	6.09**
4. Uniform academic standards throughout the school	69	4.52	1.07	4.12	1.04	3.69**
5. Staff development and inservice	70	4.91	0.83	4.23	1.01	5.65**
6. Availability of appropriate instructional material	70	5.00	0.72	4.74	0.83	2.71**
7. Principal's organizational abilities	70	5.21	0.78	4.87	0.64	3.98**
8. Principal's ability to encourage individual participation	70	5.11	0.83	4.77	0.77	3.88**
9. Academic progress of students checked frequently by principal	70	4.07	1.17	3.87	1.17	1.87

Table S.1 (continued)

	N	Prerequisite Mean	Prerequisite SD	Performance Mean	Performance SD	t
10. Fairness and expediency in allocating funds	69	4.59	1.09	4.70	0.91	-1.07
11. System for monitoring school progress used	70	4.36	1.09	4.16	1.13	1.98
12. Positive student attitudes	70	5.59	0.55	4.83	0.76	7.38**
13. School spirit - close, warm atmosphere	70	5.56	0.58	4.81	0.84	6.94**
14. Teachers indicate expectations that all students can succeed	69	5.46	0.58	4.49	0.95	8.19**
15. Teachers concerned for emotional well-being of students	70	5.56	0.58	4.77	0.84	7.74**
16. School perceived by all involved as acting as a coherent whole	70	5.33	0.72	4.64	0.96	5.73**
17. Parental contact and interest	70	5.19	0.77	4.54	0.96	5.67**
18. Teachers' satisfaction with principal	70	4.96	0.69	4.74	0.72	2.83**
19. Punctuality of teachers	70	4.83	0.99	4.46	0.81	3.27**
20. Teacher participation in non-compulsory activities	69	4.78	0.97	4.20	1.15	4.47**

Table S.1 (continued)

	N	Prerequisite Mean	Prerequisite SD	Performance Mean	Performance SD	t
21. Teachers as role models for students	69	5.33	0.66	4.87	0.82	4.28**
22. Teachers' goals are compatible with school goals	70	5.44	0.67	4.87	0.78	6.70**
23. Instructional effectiveness	70	5.50	0.61	4.73	0.80	7.71**
24. Student-centered teaching methods	70	5.30	0.71	4.33	0.86	8.72**
25. Pupil progress frequently monitored by teachers	70	5.31	0.69	4.86	0.67	4.94**
26. Class time spent productively on task	68	5.29	0.77	4.59	0.65	7.02**
27. Adequacy of the janitorial service	70	4.27	1.22	4.27	1.25	0.00
28. Quiet work space for teachers	70	4.13	1.12	3.76	1.37	2.06*
29. Sufficient number of parking spaces and plug-ins	70	2.87	1.43	4.23	1.70	-5.62**
30. Pleasant staff room facilities	70	4.11	1.20	4.06	1.40	0.33
31. Good condition of school grounds	70	4.20	1.19	3.81	1.32	1.92

* $p < 0.05$
** $p < 0.01$

APPENDIX T

FORM A AND B:

LIST OF CRITERIA

LIST OF CRITERIA : FORM A

1. Appropriate degree of decentralization of decision-making
2. Provision for contact and consultation with professional colleagues
3. Principal's involvement in coordination of instructional programs
4. High norms and academic standards of school
5. Uniform standards of discipline throughout the school
6. Availability of financial resources
7. Principal emphasizes achievement to students
8. Principal's awareness of what goes on in the school
9. Clearly stated curricular goals and objectives
10. Openness in staff-principal communications
11. Effectiveness of supervisor of teachers
12. Positive student attitudes
13. Students permitted to hold positions of responsibility
14. Students feeling that teachers are trying to help them
15. Communication between staff and students
16. Sense of ownership that students have about the school
17. Staff esprit de corps (group cohesiveness)
18. School perceived by all involved as acting as a coherent whole
19. Teachers' job satisfaction
20. Teachers' commitment to school goals
21. Positive attitudes of teachers toward their work in school
22. Innovative teaching
23. Most of the school day is spent on actual instruction
24. Staff assumes responsibility for teaching basic skills
25. Positive reinforcement for students' efforts
26. Homework assigned and checked regularly
27. Spacious classrooms
28. Adequate filing cabinets for all teachers
29. Satisfactory duplicating and typing services available
30. Good condition of school building
31. Good condition of equipment

LIST OF CRITERIA : FORM B

1. Autonomy of teachers - professional freedom
2. Reduced number of students per teacher (small class size)
3. Time for teachers to plan together provided by principal
4. Uniform academic standards throughout the school
5. Staff development and inservice
6. Availability of appropriate instructional material
7. Principal's organizational abilities
8. Principal's ability to encourage individual participation
9. Academic progress of students checked frequently by principal
10. Fairness and expediency in allocating funds
11. System for monitoring school progress used
12. Positive student attitudes
13. School spirit - close, warm atmosphere
14. Teachers indicate expectations that all students can succeed
15. Teachers concerned for emotional well-being of students
16. School perceived by all involved as acting as a coherent whole
17. Parental contact and interest
18. Teachers' satisfaction with principal
19. Punctuality of teachers
20. Teacher participation in non-compulsory activities
21. Teachers as role models for students
22. Teachers' goals are compatible with school goals
23. Instructional effectiveness
24. Student-centered teaching methods
25. Pupil progress frequently monitored by teachers
26. Class time spent productively on task
27. Adequacy of the janitorial service
28. Quiet work space for teachers
29. Sufficient number of parking spaces and plug-ins
30. Pleasant staff room facilities
31. Good condition of school grounds

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